Appendix 8

Local Early Action Plans



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March 31, 2004

Mr. J. I. Palmer, Jr., Regional Administrator U.S. EPA, Region 4 Sam Nunn Atlanta Federal Center 61 Forsyth Street, SW Atlanta, GA 30303

Dear Mr. Palmer:

The Early Action Compact requires local areas to submit Early Action Plans to the United States Environmental Protection Agency (EPA) by March 31, 2004. To fulfill that required milestone, this package contains the local area plans as well as information regarding statewide activities that contribute to bringing cleaner air to the citizens of South Carolina.

Both the 2007 future year modeling emissions inventory and the attainment maintenance analysis have been completed. Information regarding these two Early Action Compact (EAC) milestones, as well as information regarding the modeled control cases is contained in the DRAFT 8-hour Ozone Modeling Analysis and Attainment Demonstration for South Carolina's Early Action Compact, Technical Support Document, March 2004. This document will be finalized and submitted to EPA as a part of the Early Action SIP, December 2004. A copy of the Technical Support Document, Executive Summary can be found in Enclosure 1. The Technical Support Document and associated files can be found on the enclosed disk. South Carolina has invested significant resources to conduct a statewide 8-hour ozone modeling analysis. Modeling results demonstrate that all areas of South Carolina will attain the 8-hour ozone standard by 2007. In fact, modeling results indicate a 12 percent statewide average decrease in ozone levels. In addition, a modeling analysis for 2012 demonstrates continued attainment. The results of this modeling validate the regional modeling done by EPA, which also demonstrated attainment for all South Carolina areas. Work is currently underway on a modeling run using estimated 2017 emissions. This work is being done to review attainment issues beyond the mandated 2012 time frame.

South Carolina has also implemented a comprehensive ozone-forecasting program that covers twentynine of the state's forty-six counties, including those most vulnerable to higher ozone levels. Citizens in those counties are advised on a daily basis about predicted air quality so that they can take actions to protect their health. In addition, South Carolina is an original partner with EPA on the AIRNow project, which allows the current and forecast ozone and particulate matter air quality information to be available to citizens statewide.

The South Carolina General Assembly passed, and Governor Sanford signed, a joint resolution endorsing Early Action Compacts and encouraging state agencies to lead by example and develop programs that focus on reduction in ground-level ozone. At the end of 2002, 45 of South Carolina's 46 counties had entered into Early Action Compacts to implement ozone reduction strategies earlier than federally required. These counties, along with other government entities, industry, environmental groups, and other stakeholders have worked together both at the local level and state level to develop strategies to reduce ozone pollution. These efforts affirm our commitment to improve air quality for all of South Carolina. In fact, the stakeholders involved in this early action process identified 675 initiatives to obtain ozone reductions at a local level. To ensure that future growth does not adversely affect South Carolina's ability to meet the 8-hour ozone standard, the state is on schedule to impose regulations to address NO_x

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emissions from new and existing stationary sources and open burning activities statewide. These requirements will have the potential of reducing and preventing the addition of over 5,500 tons of NO_x to the state's current emissions inventory.

The South Carolina Department of Health and Environmental Control (Department) has also been working with the largest existing industrial sources in the more vulnerable areas of South Carolina to reduce NO_x emissions. These efforts will result in a reduction of 12,458 tons per year in NO_x emissions from 8 facilities, and these reductions will be captured through permit limits. Detailed information regarding the specific facilities and the respective reductions will be included in South Carolina's Early Action SIP submittal, December 2004.

Department air officials have been proactive in planning for improved air quality in the state and in the region. In 2001, it became apparent that there was a significant interest by the utility industry in the I-85 corridor of South Carolina due to the location of the natural gas pipeline and access to the electrical power grid. The Department began to receive numerous power plant permit applications. As this was a vulnerable area with regards to ground-level ozone, the numbers of permit applications and the potential impact of these sources on the area's ability to meet the 8-hour ozone standard became an utmost concern. The Department determined that authorizing the large amounts of additional NO_x emissions that were proposed by these and other similar large NO_x sources would not be appropriate without a showing that these additional emissions would not adversely impact this area. As a result of this determination, NO_x emissions estimated at 3610 tons per year have not been authorized.

In addition to the milestones for identifying and adopting early control measures established in the EAC, one condition set by EPA Region 4 for York, Chester, and Lancaster counties participation, requires that South Carolina continue to actively participate in the Charlotte Region Integrated Air Quality Management Pilot Project. This project has since been renamed "Sustainable Environment for Quality of Life" (SEQL) and the Department is an active partner in this project. Further, the Department has entered into a Memorandum of Understanding with the North Carolina Department of Environment and Natural Resources to improve air quality in the Charlotte region.

To ensure air quality goals are considered in all transportation plans, programs and projects, the Department is working closely with Federal Highways, EPA Region 4, South Carolina Department of Transportation and local Metropolitan Planning Organizations. While this effort, referred to as "Smart Highways," is not a strategy that will result in emission reductions, it will provide the citizens of South Carolina the assurance that air quality goals are considered in transportation improvements.

The Department anticipates having plans in place by April 2005 for statewide compliance with 8-hour ozone standards, well before EPA's deadline of April 2007 with attainment for some marginal and moderate areas in 2007 and 2009, and until 2024 for areas with the worst air quality.

Enclosed you will also find the local Early Action Plans completed by participating counties and a progress report update of emission reduction strategies for the Department. This information will be available on our website as soon as possible. Enclosure 2 includes the updated progress report for the Department and Enclosure 3 includes the final local Early Action Plan for each participating county, grouped by the following areas:

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Appalachian: Anderson, Cherokee, Greenville, Oconee, Pickens, Spartanburg

Catawba: Chester, Lancaster, Union, York

Pee Dee: Chesterfield, Darlington, Dillon, Florence, Marion, Marlboro

Waccamaw: Georgetown, Horry, Williamsburg Santee Lynches: Clarendon, Kershaw, Lee, Sumter

Berkeley-Charleston-Dorchester: Berkeley, Charleston, Dorchester

Low Country: Beaufort, Colleton, Hampton, Jasper

Lower Savannah: Aiken, Allendale, Bamberg, Barnwell, Calhoun, Orangeburg

Central Midlands: Fairfield, Lexington, Newberry, Richland

Upper Savannah: Abbeville, Edgefield, Greenwood, Laurens, Saluda

Local stakeholder groups continue to meet and upon request, the Department attends as many of these meetings as possible to offer technical assistance and updates regarding the 8-hour ozone standard and the early action process.

To date, the early action process has been a positive experience for South Carolina. The awareness of air quality issues has reached an all-time high and is expected to increase as the local areas implement education and outreach initiatives. Thank you for the assistance and support EPA has provided in this process. We look forward to continuing to work with EPA as we implement measures to achieve cleaner air sooner for our citizens. Should you have questions or desire additional information, please do not hesitate to contact me at (803) 896-8940 or Henry Phillips, of my staff at (803) 898-3260.

Sincerely.

Robert W. King, Jr., P.E. Deputy Commissioner

Environmental Quality Control

Enclosures:

1. DRAFT 8-hour Ozone Modeling Analysis and Attainment

Demonstration for South Carolina's Early Action Compact, Technical Support

Document, March 2004

2. South Carolina's March 2004 Progress Report Update

3. Local Early Action Plans for Participating Areas

cc: Kay Prince, EPA Region 4

County Officials (no attachments*)

Ron Methier, GA Dept. of Natural Resources (no attachments*)

Keith Overcash, NC Dept. of Environmental and Natural Resources (no attachments*)

EQC District Directors (no attachments*)

Henry Phillips (no attachments*)

^{*}All those not receiving attachments will be notified when materials are placed on website.

Appalachian Area

Local Early Action Plans

March 2004





Making News. Making Progress.

County Administrator

Joey R. Preston

Council Members

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Gracie S. Floyd District 2

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William C. Dees District 6

M. Cindy Wilson District 7

Clerk to Council

Linda N. Gilstrap



TO:

All County Departments

FROM:

Joey Preston: Administrator

SUBJECT:

From-AND COUNTY ADMIN

Air Quality Awareness and Improvement Policy

DATE:

October 12, 2004

In December 2002, Anderson County, the South Carolina Department of Health and Environmental Control (DHEC), and the Environmental Protection Agency, Region 4 office (EPA) along with Greenville and Spartanburg Counties, entered into an 8-hour Ozone Early Action Compact (EAC). This is as a result of the determination by the EPA that the upstate region as composed by Anderson, Greenville and Spartanburg Counties had entered a status of "non-attainment", as regards our air quality. This determination was arrived at after the EPA changed the standards for measuring air quality, thus bringing the formerly compliant air in Anderson County into the non-attainment status.

Anderson County recognizes that protecting the air quality for the benefit of future generations is in the public's interest. This EAC offers Anderson County the opportunity to attain the new 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than federally mandated. In order for the 3 county's to accomplish the EAC, an expeditious time line for achieving emissions reductions is required. This time line includes specific and demonstrable actions that must be taken by individuals, and entities residing or working within Anderson County. It is important to note that if Anderson County fails to meet milestones established in the EAC or fails to meet the 8-hour ozone standard, participation will be forfeited and the area will be formally designated according to requirements within EPA's 8-hour ozone implementation rule.

All County employees and departments therefore, are encouraged and directed to participate in the spirit of this agreement by affecting certain substantive and positive changes in their behavior and work practices. This policy spells out specific actions that all employees and departments are charged with following.

The purpose of this policy is to establish certain principles that will guide the recurring activities of County government. Therefore, effective immediately Anderson County shall:

- 1. Encourage employee car-pooling opportunities, when feasible, especially when travel in County vehicles is involved.
- 2. Purchase the lowest-emission vehicles practical to meet County needs. This may include the purchase of Tier II compliant vehicles, alternative fueled vehicles or hybrids. It is the goal of this county, that where practicable, to purchase hybrid or AFV's when conditions warrant and allow.
- 3. Ensure that all County vehicles and equipment are operating according to the manufacturer's specifications.
- 4. Restrict vehicle idling to no more than 5 minutes. Exceptions include emergency vehicles, traffic/weather conditions, and vehicles being repaired, maintained, or inspected.
- 5. Where feasible and practicable, restrict mowing and use of gas powered lawn equipment on County property on Ozone Action Days.
- 6. Restrict all County-sponsored outdoor burning on Ozone Action Days.
- 7. Practice energy conservation in all County facilities. The County will set a goal of reducing energy use by encouraging the wise use of electronically powered equipment, HVAC systems and lighting.
- 8. Include environmental considerations in purchasing decisions for goods and services. An example of such would be to purchase Energy Star equipment.
- 9. Departments are to be encouraged to Refuel vehicles where possible at times of the day that will have the least impact on ozone levels.



Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated nonattainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Anderson County is a potential area to be designated non-attainment for the 8-hour ozone standard, as are other areas in South Carolina. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can

be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, on-road and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally

sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Early Action Compact – List of Possible Emission Reduction Strategies Under Consideration Upstate Counties of Anderson, Greenville, and Spartanburg (South Carolina) Adopted by the Upstate Air Quality Steering Committee on December 2, 2003

Based on stakeholder consultation and taking into consideration resource and political constraints, the following control measures are under consideration pending modeling that demonstrates compliance in 2007 by SCDHEC. It is anticipated these measures under consideration will assist the County of Anderson, Greenville, Spartanburg, South Carolina, in achieving and/or maintaining the 8-hour ozone standard by 2007.

	Measure under Consideration		Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
1.	Support SCDHEC statewide efforts to reduce ozone levels. Priority A	??	Develop stakeholder group to support and participate in modeling efforts. Develop stakeholder group to participate in development of regulations (NOx – BACT (Best Available Control Technology Economically Achievable), restrict open burning).	Equivalent to removing 359,500 cars from the road or 7190 tons of VOC	Ongoing	Area: Countywide. Agency: SCDHEC, local governments.
	Measure under Consideration		Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
2.	Designate an Ozone Action Coordinator Priority A	??	Designate a staff person in each County who will be responsible for coordination of counties ozone programs.	Not applicable.	March 2003	Area: Countywide. Agency: local governments.
	Measure under Consideration		Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
3.	Seek low sulfur fuels as early as possible. Priority A	??	Continue to coordinate with representatives of Colonial and Plantation pipelines, refiners, and State representatives to ensure that the upstate has the opportunity to receive low sulfur fuels at the earliest date as they can be provided.		Ongoing	Area: Countywide Agency: local governments.
	Measure under Consideration		Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
4.	Design and implement congestion management and Intelligent Transportation System (ITS) measures. Priority A	??	Implement congestion management projects: intersection and signalization improvements to alleviate traffic congestion, therefore, reducing emissions from idling vehicles; Implement Intelligent Traffic Systems such as automated advisory/alert messages to drivers on interstate highways. For example: advise motorist about an accident ahead and the use of alternate routes to avoid congestion, which minimize emissions from idle vehicles. Encourage and support improved traffic operational planning, engineering and maintenance for existing and future transportation infrastructure.		2003 and ongoing	Area: Cities and Counties major corridors. Agency: GRATS, SPATS, and ANATS.

	Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
5.	Use of hybrid vehicles. Priority A	 ?? Encourage people, public and private organizations to purchase hybrid vehicles as they replace vehicles/fleet ?? Encourage that 10% of public agencies fleet have hybrid vehicles (use of hybrid vehicles does not require changes in infrastructure for dispensing fuel). ?? Encourage public agencies to require purchasing hybrid electric vehicles (HEVs) through the State vehicle contract. 		Counties: 2004-2005. Other local governments as soon as practical.	Area: countywide. Agency: local governments.
	Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
6.	Use higher efficiency engines for school buses. Priority A	 ?? Require purchase of high efficiency engines for school buses as they are replaced. In South Carolina, the SC Department of Education is in charge of maintenance of school buses. DHEC is working with SC Department of Education to obtain grants from EPA. ?? Promote an Adopta-School-Bus program. ?? Endorse a statewide recommendation for the State to take the lead. 		As soon as practical.	Area: countywide. Agency: State and local governments.
	Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
7a.	Develop incentive programs and opportunity for citizens to choose alternative transportation modes. Establish intermodal connections with an emphasis on mass transit Priority A	WALKING/BIKING: ?? Encourage local government to increase pedestrian/bicycle infrastructure spending (the Upstate spends 2¢ per person compared to SC spending 22¢ per person). ?? Establish safer bike routes with better signs marking lanes and routes. ?? Increase highway funding for bike paths, walking or mass transit including high-speed rail. Support the federal transportation enhancement program. ?? Install bike racks on all transit vehicles to encourage intermodal transportation. New buses purchased through the state's bus purchase program will have bike racks. PARK and RIDE: ?? Establish mass transportation between a plant and a park-and-ride site. CARPOOLING: ?? Work with local government to offer incentives for		2004	Area: Multi-County. Agency: Related agencies.

	employees to car pool. MASS TRANSIT: ?? Offer a free trolley service running in a loop in downtown areas and nearby restaurants, especially during lunch hours; ?? Research past feasibility studies on free downtown shuttles. Potential for sponsorship with local area restaurants and businesses for a lunch time shuttle - could defer the operational costs of the endeavor. ?? Support mass transit (transportation choices and alternatives): While the only local mass transit choice that is currently available in some areas is the transit bus, example of future options such as bus rapid transit, commuter passenger service offered by trains on existing rail systems, a diesel			
	multiple unit or "light rail" should be supported.			
7b. Offer free or reduced transportation cost on high ozone days. Priority A	MASS TRANSIT: ?? Implement a coordinated high ozone day alert action plan to include public notification and free or reduced ozone fares from the transportation providers.		2004	Area: Multi-County. Agency: local transit providers and related agencies.
7c. Reduce vehicle miles traveled by developing efficient user-friendly transit syste ms. Priority A	Integrate transportation planning with land use planning so public transit can make a comprehensive contribution to economic development and mobility; Remove local barriers to densification in downtowns, infill areas, and transit stations and corridors.		2004	Area: Countywide. Agency: local transit authorities.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
Review and update air emission inventory for the Upstate. Priority A	 ?? Ensure all industrial sources still operating. Review industrial sources for plant closures. ?? Identify major sources of NOx. ?? Map the locations of point sources (10% of point sources cannot be found). ?? Map the specific locations and the area sources where coal is burned. 	NOx: Over 1,000 tpy of NOx emissions (possibly as much as 3,156 tpy) may be overstated in the Upstate area source emission inventory. VOC: Over 7,000 tpy of VOC emissions (possibly as much as 20,191 tpy) may be overstated in the Upstate area source emission inventory.	Fall 2003 Prior to final Urban Airshed Model runs	Area: Countywide. Agency: SCDHEC.

Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
9. Support SCDHEC in evaluating and seeking reductions from major sources based on modeling. Priority A	 ?? Coordinate with Duke Power to determine what NOx reductions are planned for the Lee Steam Plant. ?? Coordinate with the Williams Company to determine what NOx reductions are planned for the Transco Pipeline. ?? Support NOx reduction strategies in the State Implementation Plan. ?? Develop an Early Reduction Program with incentives for industrial facility (Tier Two Type emission NOx sources) 	2,000-4,000 tpy NOx from SIP Call Potential 500-1000 tpy NOx (Tier Two)	2005	Area: Countywide. Agency: local governments, Chambers of Commerce, utilities, business and industry.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
Develop a program to offer to purchase or repair smoking vehicles (known as cash for clunkers). Priority A	 ?? Use funds generated from a license plate sales, registration fees, or license plate tax program to buy or repair high emitting vehicles from individuals. ?? Purchase such vehicles from non-profit groups such as the Kidney Foundation, Goodwill, Salvation Army when they have been donated as charitable gifts. ?? Consider accelerated vehicle retirement (scrappage) programs to encourage vehicle owners to voluntarily retire their vehicles sooner than they would have otherwise. 		2005	Area: countywide. Agency: local governments.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
Ban open burning of on-site commercial clearing debris during ozone season (April to October). Priority A	Use SCDHEC model to determine the most effective method to ban open burning. Discuss modeling results with all local governments to consider adoption.		2004	Area: countywide. Agency: SCDHEC and local governments.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
Create incentives for the purchase of high efficiency and low emissions vehicles. Priority A	?? Offer tax credits for vehicles with high efficiency gas consumption or low emissions.?? Offer tax credits for low mileage vehicles instead of high mileage vehicles.		2005	Area: Statewide. Agency: State and county governments.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
Use land-use and transportation planning to improve air quality. Priority A	?? Include air quality measures as a part of the land- use and transportation planning process.		2004	Area: countywide. Agency: local governments.

	Measure under Consideration		Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
14.	Implement a program to encourage use of green power. Priority A	??	Capture emissions from landfills to produce green power, e.g., BMW is utilizing Palmetto Landfill emissions to produce energy for its plant. Implement a Purchase Green Power program when available. Green power is electricity generated by renewable resources like solar, wind, and even decomposing garbage in selected landfills. These resources are replenished naturally and minimize harm to the environment.		2004	Area: countywide. Agency: local governments.
	Measure under Consideration		Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
15.	Promote route efficiency for delivery vehicles, trash collection etc. Priority A	??	Encourage business to consolidate distribution and collection routes to improve efficiency and reduce emissions from their fleets. Maximize route efficiency for public services such as garbage collection, delivery vehicles, and other vehicle trips to reduce fuel usage.		2004	Area: countywide. Agency: Chambers of Commerce
	Measure under Consideration		Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
16.	Establish a clean air partnership with business and industry. Priority A	?? ?? ?? ?? ?? ?? ?? ??	Encourage and coordinate alternate work schedules such as staggered work hours for business, industry and local governments. Establish park and ride lots serving perimeter counties along major corridors. Make the public aware of the park-and-ride concept: media could assist in publicizing which programs are available. Encourage carpooling/vanpooling as an option where employees living in the same area agree to ride to work together rather than to drive their individual vehicles to work. Consider parking facility controls that can include employers offering a tax-free transit/vanpool benefits and which limit the amount of parking and encourage carpooling, mass transit, etc. Encourage telecommuting. Adopt a Bus Program. Develop funding to be used for matching grants fund for several EAP Strategies. Develop a core competency and assisting the Upstate EAP group in writing grant proposal	Significant in the area of grants and local non-local tax funds generation.	2004	Area: countywide. Agency: local governments, local business, and Chambers of Commerce.

Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
17. Establish an active public awareness campaign. Priority A	 ?? Develop an editorial board to discuss air quality issues and development of a relationship with media. o Use alert messages year round, not only during ozone season. o Utilize public service announcements, newspapers, weather channels, and other media outlets to notify citizens of high ozone days. o Utilize TV Channels to issue high ozone alerts using the crawl bar at bottom of TV screens. ?? Encourage health organizations to sponsor ozone alerts in media. ?? Enhance ozone awareness (Outreach - Communication): assign a local agency to develop and implement a program to educate and motivate individuals to take actions to minimize ozone pollution. Includes a focused distribution of educational materials, dissemination of SCDHEC ground-level ozone forecast, increased media alerts to specific audiences, and includes action oriented components (i.e. ridesharing, telecommuting, etc.). ?? Develop a campaign to encourage things such as refueling vehicles during evenings, not topping off tanks when refueling, using lawnmowers during evenings instead of during high ozone hours, using of electric lawn mowers. ?? Develop a license plate program to generate revenue to implement the public awareness campaign. ?? Develop awareness program on tax savings for purchasing high efficiency vehicles. 		2004	Area: countywide. Agency: local governments, local media, health organizations, and Chambers of Commerce.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
18. Promote research in energy efficiency at local universities, industries, energy companies, federal government, and other institutions that improve air quality. Priority A	 ?? Establish programs to research energy efficiencies at local universities, e.g., Institute for Energy Studies at Clemson University. ?? Encourage business and industry to utilize the research from these programs to make the best decision concerning the purchase or upgrade of furnaces and boilers. 		2005	/agency: local universities.

	?? Encourage fuel cell and other hydrogen based research.			
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
19. Use of alternate fuels. Priority B	 ?? Direct local Planning Commissions to identify areas where alternative fuels will be best suited. ?? Encourage the use of alternate fuels; ?? Assist with establishing alternative fuel infrastructure for private sector clean fuel fleets. Fuels other than gasoline and diesel that are used to power on-road vehicles. Examples of alternate fuels include bio-diesel, electricity, ethanol, hydrogen, liquefied petroleum gas, methanol, and natural gas. ?? Assist with establishing alternative fuels for public fleets. Fuels other than gasoline and diesel that are used to power on-road vehicles. Examples of alternate fuels include bio-diesel, electricity, ethanol, hydrogen, liquefied petroleum gas, methanol, and natural gas. ?? Encourage a clean-fuel fleet program for centrally fueled fleets of more than 10 vehicles 		Ongoing	Area: Countywide. Agency: local businesses and local governments.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
20. Evaluate the use of High Occupancy Vehicle (HOV) lanes using existing lanes. Priority B	 ?? Evaluate use of HOV on three (3) lane interstate highways; ?? Show the advantages of designating HOVs; ?? Pass laws establishing regulations on HOVs lanes such as the threshold in the number of passengers (perhaps two) in the vehicle using HOVs lanes and time of day for the lane to be designated as HOV (rush hour). ?? Pass laws authorizing issuance of tickets for violations of HOVs lanes regulations, i.e., one-passenger vehicles using HOV lanes on designated hours. 		2005	Area: Interstate limited access highways. Agency: SCDOT and SCDHEC.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
21. Modify speed limits for optimum fuel efficiency. Priority B	?? Direct SCDHEC and SCDOT to take the lead role.?? Direct Planning Commissions to assist SCDHEC in modeling.		2005 or 2006	Area: Interstate highways. Agency: State Legislature and SCDOT.

Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
22. Develop process for evaluating and minimizing impact of major projects such as shopping centers, schools, and subdivisions. Priority B	?? Study impact of post construction traffic flow.?? Study impact of construction activities.		2004	Area: countywide. Agency: local governments.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
23. Community Schools to reduce vehicle miles traveled and encourage biking and walking for students and parents by encouraging smaller community -based schools that are integrated into neighborhoods Priority B	 ?? Eliminate minimum acreage requirements for school sites. ?? Cap student populations per facilities. ?? Require coordination among school boards and local governments to plan school sites and avoid conflicts with local planning goals. ?? Favor restoration and construction of community-based small schools over new construction of remote mega schools. 			Area: countywide. Agency: local governments, planning commissions, and school boards.

Early Action Compact - List of Possible Emission Reduction Strategies Under Consideration

Based on stakeholder consultation and taking into consideration resource and political constraints, the following control measures are under consideration pending modeling that demonstrates compliance in 2007 by SCDHEC. It is anticipated these measures under consideration will assist. Cherokee County , South Carolina, in achieving and/or maintaining the 8-hour ozone standard by 2007

É	Measure under Consideration	ij.	Detailed description of measure	Current assessment of amission reductions	Proposed Date for Implementation	Geographic Area andlor Local Government
1.	Support SCDHEC statewide efforts to reduce ozone levels. Priority A		Develop stakeholder group to support and participate in modeling efforts. Develop stakeholder group to participate in development of regulations (NOx – BACT (Best Available Control Technology Economically Achievabler, restrict open braming).	Equivalent to removing 359,500 care from the road or 7190 tons of VDC	Ongoing	Arex Countywide. Agency: SCDHEC, local governments.

Findings

- The NOx Centrol Regulation will directly affect most combustion sources:

 NOx control regulations require technology that meets "BACT limits found in the BACT/BACT/LAER Clearinghouse" for all new or modified sources of NOx DHEC Response to Comments, "Boilers" (July 16, 2003).

 Low NOx burners ("LNB") or the equivalent are required technology for existing sources replacing burners, and new construction must meet NOx

 - Guidelines. NOx Control Regulations, Sections III-IV.

 DHEC "cannot to date predict with any accuracy what additional reductions [in NOx levels]" will be achieved from the NOx Control Regulation, any, for the Upstate in excess of current strategies. DHEC Response to Comments, S.C. Chamber of Commerce, Response to No. 8. 11.
 - DHEC modeling shows attainment without the NOx Control Regulation by 2010. Id.
- Technology upgrades and tune-up requirements will incur capital and operations/meintenance costs. A cost/benefit analysis is not complete on the regulations, but costs are believed to be outweighed by costs of non-ettainment. Id.
- b. VOC Bast Available Control Technology ("BACT") regulations are proposed for any new source construction permit where the net VOC emissions increase is 100 TPY since July 1, 1979:
 - The "actual emissions" definition is revised to be more stringent than Federal standards by limiting the analysis to "the average rate, in tons per year, at which he unit actually emitted [VOC] during a two-year period which preceded the particular date and which is representative of normal source operations." Draft R.61-62.5, Standard No. 5.1, Section I.A.3 (April 28, 2000).
 - VOC BACT will be triggered by "new construction" when the "net VOC emissions increase exceeds 100 tons per year" since July 1, 1979. Et. at Section II B
 - DHEC has not conducted modeling on the affects of the more stringent BACT for VOCs on ozone levels in the Upstate. íi.

Advantages

a. NOx Control Regulations:

Priority A: those strategies that should be implemented in the short term. Priority B: those strategies that should be implemented in the long term.

- L. Modeling the affect on ozone attainment by the NOx Control Regulation will give certainty to the cost benefit analysis, the anticipated affects on a designation of non-attainment, and implementation of the EAC plans in the Upstate.

 Revisions to the NOx Control Regulation for technology requirements may preclude industrial development and expansion in Upstate.
- If modeling demonstrates ozone reductions, the state-wide regulation would reduce costs of non-attainment for the Upstate

b. VOC BACT Control Regulations.

- The proposal substantially increases the number of sources subject to BACT controls for VOCs, and VOCs are a precursor to ozone.
- If modeling demonstrates azone reductions, the state-wide regulation would reduce costs of non-attainment for the Upstate

Disadvantages

- NOx Control Regulations:
 - The EAC plan, in part, is being pursued to avoid costly limits on industrial growth like BACT technology requirements, so the NOx Control Regulation undermines that objective. The need for the EAC is diminished as a result.
 - BACT technology for replacements and combustion burners as required could prove costly and deter industrial development in Upstate. The NOx reduction from a state-wide NOx Control Regulation are not modeled and are unknown.
- b. VOC BACT Control Regulations:

 - The costs of BACT to local industry may be significant, including deterrence to industrial development and expension in the Upstate.

 The applicability of BACT-like standards to sources less than 250 TPY was a primary rationale for undertaking the EAC process to avoid non-
 - attainment; adopting the regulation in the Upstate jeopardizes the rationale.

 The regulation changes presume the most recent two years are representative of pollutant loadings for the plant; allowing comparison to any two iii. consecutive years over the past ten years would more accurately represent normal industry operations.

 Modeling, to date, does not demonstrate reduction in VOCs under the BACT Regulation and will have an affect on ozone levels in the Upstate.

Recommendation

- a. Further evaluate statewide NOx Control Regulations until modeling demonstrates a reduction in ozone levels in the Upstate will result.
 b. Further evaluate statewide VOC BACT Control Regulations until modeling demonstrates a reduction in ozone levels in the Upstate will result.

Cost/benefit analysis underway

Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for implementation	Geographic Area andior Local Government
Use of alternate fuels. Priority B	Encourage the use of alternate fuels; Encourage a clean-fuel fleet program for centrally fueled fleets of more than 10 vehicles.	Ongoing	Area: Countywide. Agency: local businesses and local governments.	

Findings

- Current studies have shown that California may be wrong regarding the cost of ethanol as an oxygenated fuel. Currently ethanol studies have shown that ethanol will save over 6.6 cent per gallon of gasolino under the current market forces and prices. Ethanol was found to reduce ozone in California by the U.S. Federal Court. The Court upheid the USEPA's decisions to use ethanol as an oxygenate, but have an adverse effect on particulate manner.

 Current studies have show that there is an adversaria surch of athanol and expressions. The Renewal Fuels Association does not believe that ethanol will
- Current studies have show that there is an adequate supply of ethanol and reasonable cost associated with the transport of ethanol.
 Government Agencies in Columbia, SC are planning to demonstrate the use of ethanol in fleet vehicles.
 A could generate about 80 million dollars in revenue.

- A 40-million gallon annual production facility for ethanol typically is over a \$ 50 million dollar investment and creates over 1000 jobs based upon investment dollars by typical chamber of commerce ratios

 The production of ethanol is expected to double with passage of an energy bill by U.S. Congress and to replace MTBE, a water-poisoning exygenative fuel.

 Oxygenative fuels are mandated by USEPA to reduce ground-level oxons.
- Oxygenative rules are mandated by USEPA to reduce ground-level ozone. Ethanoffuel mixes have determined to reduce carbon monoxide (CO) and ground-level ozone from the reduction of carbon monoxide. Ethanol Plants in South Carolina have the potential to sell to two large markets: Charlotte and Atlanta. Biodiesel also reduces emissions of ozone-causing emissions, thus improves are quality. Ethanol and Biodiesel plants would support the Governor's economic plan which focuses on agriculture.

- Current modern ethanol plants produce twice the energy that they consume.

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Advantages

- Ethanol could provide for economic growth.
- Ь. Ethanol and Biodiesel could reduce ground level ozone.

Disadvantages

Cost of implementation

Cost per Ton: Not figured yet.

Potential Revenue Sources

Priority A. those strategies that should be implemented in the short term. Priority B. those strategies that should be implemented in the long term.

- a. Private investment and Federal Grants.
- State grants from the Energy Office for E-85 for local governments fleets.

Conclusion

Ethanol and Biodiesel production facilities are worth pursuing as a long-term strategy for the State.

Measure under Consideration	Detailed description of measure	Current assessment of omission reductions	Proposed Date for implementation	Geographic Area and/or Local Government
Use of hydrid vehicles. Priority A	Encourage people, public and private organizations to purchase hybrid vehicles as they replace vehicles/feet Encourage that 10% of public agencies fleet have hybrid vehicles (use of hybrid vehicles does not require changes in infrastructure for dispensing fuel). Encourage public agencies to require purchasing hybrid electric vehicles (HEVs) through the State vehicle constant.		Local governments as soon as practical.	Area: countywide. Agency: local governments.

Findings

- In the use of conventional cars impose external costs on society, i.e., environmental pollution, health problems attributed to air pollution, greenhouse gases, changes in climate, dependence on imported oil, and cost of securing oil supplies. These external costs are usually borne by governments, therefore, there is justification for governments to pay the incremental cost of purchesing HEVs for their fleets. Not only will governments help with relieving society from the external costs imposed by conventional cars, but they will also help in building up the demand of HEVs. This would allow manufacturers to reduce their costs to the point where HEVs become attractive at the retail level. (http://www.gvsc.ca/hybrid.htm#today)
 Hybrid vehicles use two or more sources of power. Currently, these vehicles use electricity generated from betteries and mechanical power generated by an internal combustive angree.
- internal combustion engine.
- Hybrid electric vehicles produce low emissions and more miles per gallon.

- Hybrid electric variaties produce low emissions and more miles per gailon.

 HEVs never have to be plugged in to recharge the batteries since they recharge as the vehicles operate.

 The federal government provides tax incentives to individuals who purchase new clean fuel vehicles or HEVs.

 Federal and private funding sources for R&D: the federal government, through the Department of Energy, has partner with automobile manufacturers to share the cost of developing a comprehensive HEV research and development program.

 Manufacturers are also addressing off-highway applications with the production of hybrid trucks, trams and shuttle buses (<a href="http://www.evi-uss.com/ehp-ulus-femily-like-femil
- Interception and accessing the continuous produced hybrid vehicles.

 Tayota (Prius) and Honda (Insight and the Civic Hybrid) have produced hybrid vehicles.

 Ford introduced its concept environmentally friendly SUV in April 2003. The Ford Escape Hybrid will be available to consumers in late summer 2004 and identified fleet customers later in 2003. (http://www.ford/vehicles.com/escapeh/brid/frameset.agp; http://www.hybridcars.com/default.htm).

 Ford also announced that the new 2006 Ford Future mid-size car will be its next hybrid vehicle and it is planning to launch it in 2005.

 Sold also announced that the new 2006 Ford Future mid-size car will be its next hybrid vehicle and it is planning to launch it in 2005.
- General Motors (http://www.ott.doe.gov/hev/gmaccomp.html) plans to launch several new HEV models between model years 2004 and 2007 as follows:
 a. 2004 The Chevrolet Silverade and GMC Sierra. These will be available first to fleets; in fall 2004 they will be available to the public.
- 2005: The Saturn Vue will carry a Super Ultra Low Emissions Vehicle rating.
- 2006: The Chevrolet Equinox SUV
- 2007: The Chevrolet Tahoe and the GMC Yukon SUVs. This same year GM will offer the hybrid system used on the Equinox on the Chevrolet Malbu sedan.
- DaimlerChrysler (http://www.ott.doe.gov/hev/dcaccomp.html) plans to release the hybrid Dodge Ram pickup in 2005 and the Mercedes S-class in 2006.

 Also Mitsubishi, Nissan, Fist, Renault, and Subaru are developing their own HEVs. (http://www.ott.doe.gov/hev/faqs_ans1.html)

Priority A: those strategies that should be implemented in the short term. Priority B: those strategies that should be implemented in the long term.

- n. It is unclear if the majority of consumers are aware of the existence of the new technology and benefits that HEVs offer, i.e., improved air quality, health and financial incentives. Menufacturers and local dealers should establish a more aggressive marketing campaign describing these benefits to create
- consumer awareness of their availability locally.

 Motorists traveled more than 2.8 trillion miles in 2002 in the country. (http://money.cnn.com/2003/07/18/pfrautos/bc.autos.deaths.reut)

 There are 22 million SUVs on U.S. roads. This is approximately 10 percent of the total number of vehicles. (http://money.cnn.com/.2003/07/18/pfr
- q. State and local governments around the country are purchasing HEVs for their fleets. For example, SCDHEC purchased a Toyota Prius and a Honda
- State and local governments around the country are purchasing HEVs for their fliests. For example, SCDHEC purchased a Toyota Prius and a Honda insight, King County, WA purchased twenty (20) Toyota Prius cars at a total cost of \$375,000, (http://www.matroke.gov/procure/green/build6.htm#1)
 National initiative to assist state and local governments purchase low-emission, energy-efficient fleet vehicles; this national purchasing allowage will allow local and state againcies to pool their purchasing power. By doing it, agencies will obtain fuel-saving hybrid vehicles with feworable contract provisions. The leading agency will be King County, Washington, King County and the project sponsors will develop the national solicitation for hybrid vehicles over the next few months. U.S. Communities, the National Association of Counties (NACo), and the Center for a New American Dream sponsor this program. State, county, city, school, and regional government entities will be able to join the solicitation once it is complete. The solicitation will be available for bridging in late 2003 or early 2004. Other national founding one-sponsors include: the National Instance of Governmental Purchasing (NIGP), National League of Critics (NLC), the U.S. Conference of Mayors (USCM) and the Association of School Business Officials International (ASBO). No fees will be charged to public agencies to access and use these contracts. (http://www.afdc.nrel.gov/whatsnew.shtml)

- Improve air quality by producing less pollution. HEVs emissions meet the Ultra Low Emission Vehicle (ULEV) regulations that exists today (the strictest are the zero emission vehicles ZEVs) (http://www.gvsc.ca/nybrid.html).
- Reduce global warming by cutting greenhouse emissions.

 Save money by taking advantage of the one-time federal income tax deduction or federal tax credits when purchasing a brand new vehicle and by refueling less often as HEVs travel up to 700 miles between fill-ups.
- Save fuel consumption and reduce exhaust emissions, e.g., when the vehicle is idle, the engine in hybrid vehicles turns "OFF" and turns "ON" when is accelerated. Fuel economy is about twice that of conventional cars (http://www.gusc.ca/hybrid rami).
 Use of electric outlets to recharge battery is not needed, e.g., hybrid vehicles do not need to be plugged in to an electric outlet to recharge batteries.
- Reduce reliance on imported oil
- nprove misage per gallon
- Improve mileage per geton.
 There is no need to develop new infrastructure to refuel HEVs as they currently use gasoline for the internal combustion engines.

- The incremental cost of HEVs is about US \$8,000 more than comparable conventional vehicles (http://www.gvsc.ca/hytvid.html). The cost of purchasing HEVs up front may be high for a new vehicle; however, this is somehow offset by the tax incentives that the federal income tax and some States offer (see
- HEVs may not be available on time locally for mass retail purchases to meet the new eir quality standards established by EPA by 2007. This, however, maybe reversed by the national initiative to assist state and local governments to purchase HEVs led by King County, WA, which would increase the
- demand of HEVs provided there is enough participation from these agencies.

 Sometimes owners must deal with inherited mechanical problems that new technologies create until manufacturers acquire sufficient knowledge to fix those problems before new HEVs leave manufacturing plants. This is more a nuisance for the owner than a cost, as manufacturers provide warranties that cover the repairs.

d. It would be hard to change consumers' minds to purchase HEVs in mass, as conventional vehicles have been available in the market for the past several decades

Cost of implementation

Cost per Ton: to be determined later.

Potential Revenue Sources

- a. Grants from USEPA to local governments.
 - In 2001, King County, WA received a grant from EPA as part of a new national transportation partnership program to purchase hybrid vehicles for its fleet.
 - ii. King County received a grant to purchase hybrid cars for the local Flexcer program, a county-supported car-sharing program. "Carsharing is similar to car rental; the main differences are that an individual can use the carsharing vehicle for as short a time period as one hour, and that the cars are located in the communities rather than at a central car rental location." (http://www.commuterpage.com/carshare.htm)
 - iii. It is unclear whether EPA is currently providing grants to local governments to purchase HEVs

Conclusion

The expanded use of HEVs would definitely improve the air quality in the Upstate. To create consumer awareness, manufacturers and, especially, local dealers should establish a more aggressive marketing campaign describing the benefits that purchasing and driving HEVs provide financially and to the environment. The Air Quality Steering or Staff Advisory Committees should meet with local car dealers to discuss topics such as the availability of HEVs in the Upstate, how dealers perceive the outlook of the demand of HEVs in the area, etc.

Measure under Consideration	Détailed description of measure	Current assessment of emission reductions	Proposed Data for Implementation	Geographic Area anti/or Local Government
Promote route efficiency for delivery wehicles, tresh collection etc. Priority A	 Encourage business to consolidate distribution and collection routes to improve efficiency and roduce emissions from their feets. Maximize route efficiency for public services such as garbage collection, delivery vehicles, and other vehicle (figs. to reduce het usage). 		2004	Arex countywide. Agency: Chambers of Commerce

Findings

- a. Identify and establish a Clean Air Partnership between, local business, municipalities, counties, and the state and local government agencies that do
- Identity and establish a Clean Air Parametering between, how overhead, as evide locally with fleets.

 This could include everyone from school buses to Fed Ex. to US Post Office, to Garbage and Recycling Collection.

 Develop and implement an educational and marketing plan on what the emissions impact and savings could be on these fleets should everyone work to maximize efficiency and then sell it to the participants.

- a. Getting everyone to work together and educate on them on the problem and possible solutions.
 b. Reduction in fuel emissions.

Disadvantages

- a. Convincing some that there may be more benefit in the long run to adopting a strategic plan on this rather than solely considering the bottom line profit
 b. Convincing everyone to come to the table.

Cost of implementation

Potential Revenue Sources

Conclusion

Getting business and agency fleets to operate using an "environmentally friendly" mentality white understanding their need to turn a profit and continue

Priority A: those strategies that should be implemented in the short term. Priority B: those strategies that should be implemented in the long term.

Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/o Local Government
Establish an active public awareness campaign. Priority A	Develop an editorial board to discuss air quality issues and development of a relationship with media. Use airct messages year round, not only during ocone seeson. Utilize public service announcements, newspapers, weather channels, and other media cudets to notify citizens of high ozone alerts. Utilize to Channels to issue high ozone alerts, using the crow bar at bottom of TV soreens. Encourage health organizations to sponsor ozone alerts in media. Enhance ozone awareness (Dutheach—Commanication): assign a local agency to develop and implement a program to educate and motivate individuals to take actions to minimize ozone polition. Includes a tooused distribution of odupational meterials, disserimetro of SCDHEC ground-level conce forecast, increased media alerts to specific audiences, and includes action oriented components (i.e. rideenstring, belocommuning, etc.). Develop a carropsign to encourage things such as refereing vehicles outing evenings, not topping off tanks when refluding, using lawrrowers during evenings instead of during high ozone hours, using of electric lawn mowers. Develop a foerne plate program to generate revenue to implement the public awareness campaign. Develop agrantenss program on tax savings for purchasing high efficiency vehicles.		2014	Area: countywide. Agency: local gevernments, local medi health organizations, an Chambers of Commerce

Priority A: those strategies that should be implemented in the short term. Priority B: those strategies that should be implemented in the long term.

Findings

- USEPA and SCDHEC have developed educational resources that can be enhanced and failured to meet local needs for presentations, seminars, and
- websites: www.epa.gov/airnow/resource.html; www.sorbec.pet/bag/
 b. Local website on Upstate Early Action Compact and Plan also available; www.upstatecleanair.org/
 c. Excellent website from State of Bindia "Partners for Clean Air": www.cleantheair.org/
- d. Others.
- - ners.

 North Carolina Dept. of Environmental and Natural Resources: www.daq.state.nc.ua/

 Virginia Department of Environmental Quality: www.daq.state.nc.ua/dap/airmon/

 New Jersey Department of Environmental Protection: www.state.nc.ua/dap/airmon/

 National Safety Council Environmental Health Center: www.nsc.org/ebc/airqual.htm

 Protection of the Council Environmental Health Center: www.nsc.org/ebc/airqual.htm

- EPA Australia: www.spa.nsw.gov.au/sir/index.htm Environment Canada: www.mac.ac.oc.ca/ng.smog/index.e.clm Ministry of the Environment Ontario: www.airqualityontario.com/
- vii. Ministry of the Environment Ontario. www.hungusa.org/sir/
 viii. American Lung Association: www.hungusa.org/sir/
 ix. Attaints Chamber of Commerce: wirw.mistroatlantschamber.com/macoclinitistives/ar. new shtml
 ix. Attaints Chamber of a broadly and publicly supported Quality Growth
 Strategy: 9.997, the Envision Utah Public Private Patharship of growth and quality of for generations to come. Air quality was first on the list of six goals
 the project addresses. One of the first sleps during the project has been to engage decision-makers, elected officials, community leaders, and the public in
 a public awareness campaign to share information about the project has been to engage decision-makers, elected officials, community leaders, and the public in
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 CA Air Resources Boa

- Advantages
 a. Issues related to environmental protection have only recently begun to find their way into the public psyche, and often an extensive public awareness campaign precedes any meaningful change in behavior or policy. For example, the "Anti-Litter" campaigns have led to a greater understanding of the impacts of litter on the environment, both from a health (e.g., water quality) and aesthetic perspective. A public ewareness campaign targeting air quality can have the same results.
 b. Can reach almost everyone through television, radio, internet, group presentations, newsletters, and conferences.

- Disadvantages
 a. It is difficult to quantify the impact of a public education campaign.
 b. Some people would not be reached.
- c. Potential cost could be a deterrent.

Cost of implementation Cost per Ton: Unknown.

Potential Revenue Sources:

- In-kind donations (e.g., media outlets, PR firms, corporate partners, health and related agencies, active living advocates) can significantly reduce costs. a. In-kind donations (e.g., media outlets, PR firms, corporate partners, health and
 b. All appropriate public and private funding sources including grants can be used

Priority A: those strategies that should be implemented in the short term. Priority B: those strategies that should be implemented in the long term.

, c. License plate program and other fees may be potential revenue sources.

Conclusion

- Conclusion

 Recommended components:

 a. Education campaign with quantified economic impacts for target audiences:

 i. Air quality committee members.

 ii. Transportation and land use planners, officials.

 iv. Owners of registered vehicles.

 v. General public.

 Emphasize constitue: do not want non-attainment status.
- Emphasize incentive: do not want non-attainment status b DHE6's Spare the Air campaign.

- Diffects space the Air campaign.
 Website
 Leach region, with links to DHEC and EPA information and with up-to-date local information

 PSAs on specific, short topics, (Title: "On the Air"), for example:
 Best time to refuel
 Topping off tank.
 Leave ½ hour earlier or later to avoid congestion.

 Combine errands into fewer trips.
 Advantages of using public transit.
 Advantages of oreating development policies that encourage transit use and/or non-motorized transportation (sidewalk devalopment, Highlight programs that encourage non-motorized transportation evelopment, multi-use development, proposed state law for neighborhood schools).

 Will Factoids, e.g., What is smog?, Rate of respiratory linesses (Spartanburg number one in South Carolina)

 Emphasis on those PSAs associated with an action or behavior change.



County of Greenville

"... At Your Service"

Joseph M. Kernell County Administrator Phone: (864) 467-7105 www.greenvillecounty.org

MEMORANDUM

TO: County Employees

FROM: Joe Kernell, County Administrator

RE: Principles that will guide County operations to improve air quality

DATE: October 15, 2004

Background

Greenville County recognizes protecting the air quality for the benefit of future generations is in the public's interest. Thus, Greenville County, along with Spartanburg and Anderson counties, is taking some measures to improve the air quality in the Upstate with regard to ground level ozone. Ozone, at ground level, is a harmful gas that pollutes the air we breathe. People who are at risk of the effects of ground level ozone include active children and adults who exercise, or work outside, people with asthma, chronic lung disease, and bronchitis, and healthy people with unusual susceptibility.

In December 2002, Greenville, Spartanburg, and Anderson counties, the South Carolina Department of Health and Environmental Control (DHEC), and the Environmental Protection Agency (EPA), Region 4 Office, entered into an 8-hour Ozone Early Action Compact (EAC). The EAC offers Greenville County the opportunity to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than federally mandated.

This opportunity requires an expeditious time line for achieving emissions reductions sooner than expected under the 8-hour ozone implementation rulemaking. However, if Greenville County fails to meet milestones established in the EAC or fails to meet the 8-hour ozone standard, participation will be forfeited and Greenville County will be designated according to requirements within EPA's 8-hour ozone implementation rule. Those requirements would have an impact on industries, as these would be required to conform to the stricter federal regulations included in the Clean Air Act. The requirements would also impact federally funded transportation programs, which would affect all of us in the Upstate.

Purpose

The purpose of this memorandum is to establish certain principles that will guide the recurring activities of Greenville County government in the following areas:

Public Awareness and Education:

- Ensure that all county employees are notified of upcoming alerts for Ozone Action Days during ozone season (April – October) of each year.
- Ensure that County residents are aware of the new State's restrictions on outdoor burning, especially during ozone season.

Commuting:

- Greenville County will explore and adopt, when feasible:
 - o DHEC's Take a Break from the Exhaust Program or a program with a similar purpose, and
 - Flex-scheduling and car-pooling opportunities.

Fleet Operations and Maintenance:

- Greenville County will continue implementing the following measures:
 - Ensure that all County vehicles and equipment are operating according to the manufacturer's specifications.
 - Ensure preventative maintenance schedules are timely performed. Vehicles and equipment, which operate in construction areas or off-road, require additional maintenance to ensure fuel efficiency.
 - Avoid long idling. The worst mileage a vehicle can get is zero (0) miles per gallon, which occurs when the engine idles. Unnecessary idling causes additional engine wear and premature engine failure. Additionally, idling with air conditioning turned 'ON" reduces fuel efficiency by 20% and produce emissions that pollute the air unnecessarily.
 - o Continue considering purchasing low-emission vehicles to meet County needs according to the vehicle replacement plan. This may include purchasing Tier II compliant vehicles.
 - Fill fuel tanks in the morning, or when the temperature is coolest. Unleaded gasoline is densest when cold. Do not overfill tank and stop pumping when the nozzle cuts off automatically. Overfilling causes contamination to the fuel purge system and heat causes fuel to expand and overflow. Overfilling also causes fuel vapors to evaporate into the atmosphere causing air pollution.
 - Clean out the trunk or storage area. Every 200 lbs. of unnecessary weight reduce one mile of fuel efficiency.
 - Operate vehicles within the speed limit and eliminate hasty starts. Driving too fast wastes gas. Traveling at 65 mph uses 15% more fuel than driving at 55 mph. It makes good sense, when possible, to set the cruise control at the speed limit when traveling on highways. Using cruise control reduces fuel consumption, lowering emissions.
 - Develop efficient routing plans. Utilize routes with minimal traffic lights, when possible. This
 decreases engine idling at stoplights. Eliminate more than one vehicle traveling to the same
 location, when possible.
 - Encourage carpooling when appropriate. Utilize fuel-efficient vehicles or motor pool vehicles when traveling out of town to meetings, conferences, and training sessions.

Property Management:

Greenville County has been improving landscaping at all County facilities with the goals of improving the environment by minimizing turf areas and replacing them with shrubs, bed areas, and trees; enhance appearance; and reducing maintenance and associated costs. The County has accomplished these efforts at four (4) sites and will expand and continue implementing them as funding becomes available or facilities are renovated.

Energy conservation:

Greenville County is committed to energy conservation programs and practices, which will result in less energy consumption and reduction of emissions from power plants. The goal is to expand these programs and practices to all County facilities.

Greenville County partnered with the SC Energy Department in 2003 with the goal of reducing energy consumption at County facilities and stabilizing energy cost. The County initiated the lighting retrofit program at County Square and conducted an energy study at four (4) other County facilities. The study identified areas of improvements in three major facilities.

The following measures will continue to be implemented and reminders will be sent to all County employees and tenants:

- Turn OFF all office lights when leaving every day,
- Electric space heaters are not allowed in County facilities (exceptions are made only for medical reasons with a written statements from a doctor),
- Ensure that electric equipment such as lamps, coffee pots, monitors, printers, copy machines, etc. are turned OFF when leaving every day.

To further increase energy conservation, the County will encourage, when practical, to make environmental considerations in purchasing decisions for goods and services such as Energy Star equipment.

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated nonattainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Greenville County is a potential area to be designated non-attainment for the 8-hour ozone standard, as are other areas in South Carolina. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can

be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, on-road and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be considered for implementation by the county. While it may not be possible to determine emissions reductions for each of the strategies

included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Early Action Compact – List of Possible Emission Reduction Strategies Under Consideration Upstate Counties of Anderson, Greenville, and Spartanburg (South Carolina) Adopted by the Upstate Air Quality Steering Committee on December 2, 2003

Based on stakeholder consultation and taking into consideration resource and political constraints, the following control measures are under consideration pending modeling that demonstrates compliance in 2007 by SCDHEC. It is anticipated these measures under consideration will assist the County of Anderson, Greenville, Spartanburg, South Carolina, in achieving and/or maintaining the 8-hour ozone standard by 2007.

	Measure under Consideration		Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
1.	Support SCDHEC statewide efforts to reduce ozone levels. Priority A	??	Develop stakeholder group to support and participate in modeling efforts. Develop stakeholder group to participate in development of regulations (NOx – BACT (Best Available Control Technology Economically Achievable), restrict open burning).	Equivalent to removing 359,500 cars from the road or 7190 tons of VOC	Ongoing	Area: Countywide. Agency: SCDHEC, local governments.
	Measure under Consideration		Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
2.	Designate an Ozone Action Coordinator Priority A	??	Designate a staff person in each County who will be responsible for coordination of counties ozone programs.	Not applicable.	March 2003	Area: Countywide. Agency: local governments.
	Measure under Consideration		Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
3.	Seek low sulfur fuels as early as possible. Priority A	??	Continue to coordinate with representatives of Colonial and Plantation pipelines, refiners, and State representatives to ensure that the upstate has the opportunity to receive low sulfur fuels at the earliest date as they can be provided.		Ongoing	Area: County wide Agency: local governments.
	Measure under Consideration		Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
4.	Design and implement congestion management and Intelligent Transportation System (ITS) measures. Priority A	??	Implement congestion management projects: intersection and signalization improvements to alleviate traffic congestion, therefore, reducing emissions from idling vehicles; Implement Intelligent Traffic Systems such as automated advisory/alert messages to drivers on interstate highways. For example: advise motorist about an accident ahead and the use of alternate routes to avoid congestion, which minimize emissions from idle vehicles. Encourage and support improved traffic operational planning, engineering and maintenance for existing and future transportation infrastructure.		2003 and ongoing	Area: Cities and Counties major corridors. Agency: GRATS, SPATS, and ANATS.

Measure under Consideration	Detailed description of measure	Current assessment of	Proposed	Geographic Area and/or
Use of hybrid vehicles. Priority A	?? Encourage people, public and private organizations to purchase hybrid vehicles as they replace vehicles/fleet ?? Encourage that 10% of public agencies fleet have hybrid vehicles (use of hybrid vehicles does not require changes in infrastructure for dispensing fuel). ?? Encourage public agencies to require purchasing hybrid electric vehicles (HEVs) through the State vehicle contract.	emission reductions	Date for Implementation Counties: 2004-2005. Other local governments as soon as practical.	Area: countywide. Agency: local governments.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
Use higher efficiency engines for school buses. Priority A	 ?? Require purchase of high efficiency engines for school buses as they are replaced. In South Carolina, the SC Department of Education is in charge of maintenance of school buses. DHEC is working with SC Department of Education to obtain grants from EPA. ?? Promote an Adopt-a-School-Bus program. ?? Endorse a statewide recommendation for the State to take the lead. 		As soon as practical.	Area: countywide. Agency: State and local governments.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
7a. Develop incentive programs and opportunity for citizens to choose alternative transportation modes. Establish intermodal connections wit an emphasis on mass transit Priority A	WALKING/BIKING: ?? Encourage local government to increase pedestrian/bicycle infrastructure spending (the Upstate spends 2¢ per person compared to SC spending 22¢ per person). ?? Establish safer bike routes with better signs marking lanes and routes. ?? Increase highway funding for bike paths, walking or mass transit including high-speed rail. Support the federal transportation enhancement program. ?? Install bike racks on all transit vehicles to encourage intermodal transportation. New buses purchased through the state's bus purchase program will have bike racks. PARK and RIDE: ?? Establish mass transportation between a plant and a park-and-ride site. CARPOOLING:		2004	Area: Multi-County. Agency: Related agencies.

7b. Offer free or reduced transportation cost on high ozone days. Priority A 7c. Reduce vehicle miles traveled by	 ?? Work with local government to offer incentives for employees to car pool. MASS TRANSIT: ?? Offer a free trolley service running in a loop in downtown areas and nearby restaurants, especially during lunch hours; ?? Research past feasibility studies on free downtown shuttles. Potential for sponsorship with local area restaurants and businesses for a lunch time shuttle - could defer the operational costs of the endeavor. ?? Support mass transit (transportation choices and alternatives): While the only local mass transit choice that is currently available in some areas is the transit bus, example of future options such as bus rapid transit, commuter passenger service offered by trains on existing rail systems, a diesel multiple unit or "light rail" should be supported. MASS TRANSIT: ?? Implement a coordinated high ozone day alert action plan to include public notification and free or reduced ozone fares from the transportation providers. ?? Integrate transportation planning with land use 		2004	Area: Multi-County. Agency: local transit providers and related agencies. Area: Countywide.
developing efficient user-friendly transit systems. Priority A	planning so public transit can make a comprehensive contribution to economic development and mobility; ?? Remove local barriers to densification in downtowns, infill areas, and transit stations and corridors.		2001	Agency: local transit authorities.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
Review and update air emission inventory for the Upstate. Priority A	 ?? Ensure all industrial sources still operating. Review industrial sources for plant closures. ?? Identify major sources of NOx. ?? Map the locations of point sources (10% of point sources cannot be found). ?? Map the specific locations and the area sources where coal is burned. 	NOx: Over 1,000 tpy of NOx emissions (possibly as much as 3,156 tpy) may be overstated in the Upstate area source emission inventory. VOC: Over 7,000 tpy of VOC emissions (possibly as much as 20,191 tpy) may be overstated in the Upstate area source emission inventory.	Fall 2003 Prior to final Urban Airshed Model runs	Area: Countywide. Agency: SCDHEC.

Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
9. Support SCDHEC in evaluating and seeking reductions from major sources based on modeling. Priority A	 ?? Coordinate with Duke Power to determine what NOx reductions are planned for the Lee Steam Plant. ?? Coordinate with the Williams Company to determine what NOx reductions are planned for the Transco Pipeline. ?? Support NOx reduction strategies in the State Implementation Plan. ?? Develop an Early Reduction Program with incentives for industrial facility (Tier Two Type emission NOx sources) 	2,000-4,000 tpy NOx from SIP Call Potential 500-1000 tpy NOx (Tier Two)	2005	Area: Countywide. Agency: local governments, Chambers of Commerce, utilities, business and industry.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
Develop a program to offer to purchase or repair smoking vehicles (known as cash for clunkers). Priority A	 ?? Use funds generated from a license plate sales, registration fees, or license plate tax program to buy or repair high emitting vehicles from individuals. ?? Purchase such vehicles from non-profit groups such as the Kidney Foundation, Goodwill, Salvation Army when they have been donated as charitable gifts. ?? Consider accelerated vehicle retirement (scrappage) programs to encourage vehicle owners to voluntarily retire their vehicles sooner than they would have otherwise. 		2005	Area: countywide. Agency: local governments.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
Ban open burning of on-site commercial clearing debris during ozone season (April to October). Priority A	?? Use SCDHEC model to determine the most effective method to ban open burning.?? Discuss modeling results with all local governments to consider adoption.		2004	Area: countywide. Agency: SCDHEC and local governments.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
Create incentives for the purchase of high efficiency and low emissions vehicles. Priority A	?? Offer tax credits for vehicles with high efficiency gas consumption or low emissions.?? Offer tax credits for low mileage vehicles instead of high mileage vehicles.		2005	Area: Statewide. Agency: State and county governments.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
Use land-use and transportation planning to improve air quality. Priority A	?? Include air quality measures as a part of the land- use and transportation planning process.		2004	Area: countywide. Agency: local governments.

Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
Implement a program to encourage use of green power. Priority A	 ?? Capture emissions from landfills to produce green power, e.g., BMW is utilizing Palmetto Landfill emissions to produce energy for its plant. ?? Implement a Purchase Green Power program when available. Green power is electricity generated by renewable resources like solar, wind, and even decomposing garbage in selected landfills. These resources are replenished naturally and minimize harm to the environment. 		2004	Area: countywide. Agency: local governments.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
Promote route efficiency for delivery vehicles, trash collection etc. Priority A	 ?? Encourage business to consolidate distribution and collection routes to improve efficiency and reduce emissions from their feets. ?? Maximize route efficiency for public services such as garbage collection, delivery vehicles, and other vehicle trips to reduce fuel usage. 		2004	Area: countywide. Agency: Chambers of Commerce
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
16. Establish a clean air partnership with business and industry. Priority A	 ?? Encourage and coordinate alternate work schedules such as staggered work hours for business, industry and local governments. ?? Establish park and ride lots serving perimeter counties along major corridors. ?? Make the public aware of the park-and-ride concept: media could assist in publicizing which programs are available. ?? Encourage carpooling/vanpooling as an option where employees living in the same area agree to ride to work together rather than to drive their individual vehicles to work. ?? Consider parking facility controls that can include employers offering a tax-free transit/vanpool benefits and which limit the amount of parking and encourage carpooling, mass transit, etc. ?? Encourage telecommuting. ?? Adopt a Bus Program. ?? Develop funding to be used for matching grants fund for several EAP Strategies. ?? Develop a core competency and assisting the Upstate EAP group in writing grant proposal 	Significant in the area of grants and local non-local tax funds generation.	2004	Area: countywide. Agency: local governments, local business, and Chambers of Commerce.

Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
17. Establish an active public awareness campaign. Priority A	 ?? Develop an editorial board to discuss air quality issues and development of a relationship with media. o Use alert messages year round, not only during ozone season. o Utilize public service announcements, newspapers, weather channels, and other media outlets to notify citizens of high ozone days. o Utilize TV Channels to issue high ozone alerts using the crawl bar at bottom of TV screens. ?? Encourage health organizations to sponsor ozone alerts in media. ?? Enhance ozone awareness (Outreach - Communication): assign a local agency to develop and implement a program to educate and motivate individuals to take actions to minimize ozone pollution. Includes a focused distribution of educational materials, dissemination of SCDHEC ground-level ozone forecast, increased media alerts to specific audiences, and includes action oriented components (i.e. ridesharing, telecommuting, etc.). ?? Develop a campaign to encourage things such as refueling vehicles during evenings, not topping off tanks when refueling, using lawnmowers during evenings instead of during high ozone hours, using of electric lawn mowers. ?? Develop a license plate program to generate revenue to implement the public awareness campaign. ?? Develop awareness program on tax savings for purchasing high efficiency vehicles. 		2004	Area: countywide. Agency: local governments, local media, health organizations, and Chambers of Commerce.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
18. Promote research in energy efficiency at local universities, industries, energy companies, federal government, and other institutions that improve air quality. Priority A	 ?? Establish programs to research energy efficiencies at local universities, e.g., Institute for Energy Studies at Clemson University. ?? Encourage business and industry to utilize the research from these programs to make the best decision concerning the purchase or upgrade of furnaces and boilers. 		2005	/agency: local universities.

	?? Encourage fuel cell and other hydrogen based research.			
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
19. Use of alternate fuels. Priority B	 ?? Direct local Planning Commissions to identify areas where alternative fuels will be best suited. ?? Encourage the use of alternate fuels; ?? Assist with establishing alternative fuel infrastructure for private sector clean fuel fleets. Fuels other than gasoline and diesel that are used to power on-road vehicles. Examples of alternate fuels include bio-diesel, electricity, ethanol, hydrogen, liquefied petroleum gas, methanol, and natural gas. ?? Assist with establishing alternative fuels for public fleets. Fuels other than gasoline and diesel that are used to power on-road vehicles. Examples of alternate fuels include bio-diesel, electricity, ethanol, hydrogen, liquefied petroleum gas, methanol, and natural gas. ?? Encourage a clean-fuel fleet program for centrally fueled fleets of more than 10 vehicles 		Ongoing	Area: Countywide. Agency: local businesses and local governments.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
Evaluate the use of High Occupancy Vehicle (HOV) lanes using existing lanes. Priority B	 ?? Evaluate use of HOV on three (3) lane interstate highways; ?? Show the advantages of designating HOVs; ?? Pass laws establishing regulations on HOVs lanes such as the threshold in the number of passengers (perhaps two) in the vehicle using HOVs lanes and time of day for the lane to be designated as HOV (rush hour). ?? Pass laws authorizing issuance of tickets for violations of HOVs lanes regulations, i.e., one-passenger vehicles using HOV lanes on designated hours. 		2005	Area: Interstate limited access highways. Agency: SCDOT and SCDHEC.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
21. Modify speed limits for optimum fuel efficiency. Priority B	?? Direct SCDHEC and SCDOT to take the lead role.?? Direct Planning Commissions to assist SCDHEC in modeling.		2005 or 2006	Area: Interstate highways. Agency: State Legislature and SCDOT.

Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
22. Develop process for evaluating and minimizing impact of major projects such as shopping centers, schools, and subdivisions. Priority B	?? Study impact of post construction traffic flow.?? Study impact of construction activities.		2004	Area: countywide. Agency: local governments.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
23. Community Schools to reduce vehicle miles traveled and encourage biking and walking for students and parents by encouraging smaller community-based schools that are integrated into neighborhoods Priority B	 ?? Eliminate minimum acreage requirements for school sites. ?? Cap student populations per facilities. ?? Require coordination among school boards and local governments to plan school sites and avoid conflicts with local planning goals. ?? Favor restoration and construction of community-based small schools over new construction of remote mega schools. 			Area: countywide. Agency: local governments, planning commissions, and school boards.

OCONEE COUNTY EARLY ACTION COMPACT

GROUND-LEVEL OZONE EMISSION REDUCTION PLAN

ADOPTED FEBRUARY 17, 2004

Oconee County Early Action Plan for the 8-Hour Ozone Standard

Executive Summary

Although all areas within its boundaries are currently in attainment of the 8-hour National Ambient Air Quality Standard for Ozone, Oconee County recognizes that a jurisdiction's air quality is often affected by emissions originating in other regions. And, as exposure to ground-level ozone has been identified as a serious health concern, all local governments share in the responsibility of working to reduce ozone-causing emissions. Oconee County therefore committed to act as a partner in the South Carolina Early Action State Implementation Plan by signing an Early Action Compact on December 3, 2002. As such, the County will act to reduce emissions that cause ground-level ozone prior to deadlines mandated under the Clean Air Act. This plan establishes the reduction strategies Oconee County will implement.

Two groups of gasses combine with strong sunlight to create ground-level ozone, volatile organic compounds (VOC's) and nitrogen oxides (NOx). In Oconee County, the primary sources of VOC's are found in the natural environment, and would therefore be difficult to reduce. NOx, however, stems primarily from manmade sources, such as combustion engines and industrial processes, and may be more easily controllable. In Oconee County, the primary source of NOx can be found in exhaust from automobiles.

Oconee County has chosen implement a series of reduction strategies designed to reduce emissions from county-owned vehicles, equipment, and facilities, while educating and encouraging its citizens to do likewise. And though potentially challenged by public attitudes and limited resources, it is believed that these steps will over time effect a significant reduction in emissions in Oconee County. The chosen strategies include upgrading county vehicles and equipment through its recently begun Capital Improvements Plan, maintaining and constructing county facilities in the most energy-efficient manner practicable, implementing greenspace requirements in the county's subdivision regulations, assisting municipalities in their efforts to reduce emissions, and dissemination of ozone-related information to stakeholders and the general public. When combined with steps taken by the state and federal governments, as well as those of other local jurisdictions, the emissions reductions achieved by Oconee County's efforts will help further the goal of improved air quality for areas both inside and outside county borders.

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met. A copy of the Oconee County EAC is included as Attachment A.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). On December 3, 2002, Ann H. Hughes, County Supervisor, signed an Early Action Compact (EAC) for Oconee County. Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although Oconee County is currently not designated as a non-attainment area for the 8-hour ozone standard, other areas in South Carolina may be. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations by Oconee County will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure. The following 2002 statistics are for Oconee County and were collected by the Bureau of Epidemiology at DHEC:

- ?? 9.3 percent of adults suffer annually from asthma;
- ?? 86 hospitalizations were due to asthma;
- ?? 103 children under the age of 18 visited the Emergency Room due to asthma; and,
- ?? Asthma is the leading cause of hospitalization for children under the age of 18.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans. The following figures for Oconee County show the percentage of sources by category for NOx (Figure 1) and VOCs (Figure 2).

Figure 1-NOx

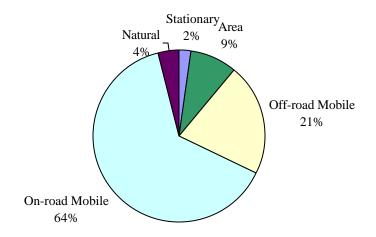
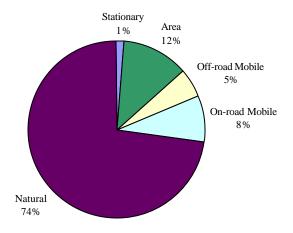


Figure 2 - VOC



Emissions of NOx and VOC are precursors to the formation of ozone. South Carolina is sometimes referred to as "NOx limited." This means that small amounts of NOx enable ozone to form rapidly when VOC levels are relatively high, but ozone production is quickly limited by the removal of NOx. Under these conditions, NOx reductions are highly effective in reducing ozone while VOC reductions have little effect. Figure 1 shows that 62 percent of the NOx emissions is from on-road mobile sources. With such a high percentage of NOx coming from on-road sources, it would appear that reductions from mobile sources would be beneficial.

Demographics

Oconee County's area is approximately 670 square miles, with a population of 66,215 according to the 2001-2002 South Carolina Statistical Abstract. The population density is approximately 99 persons/mile². There are a total of approximately 834 miles of interstate, state primary and state secondary roads in the county. The number of registered vehicles in Oconee County was 59,444, ranking the county 17th among the other counties in South Carolina for number of registered vehicles.

Of Oconee County's total population, 29,544 people over the age of 16 are employed. Of those employed, 28,936 people commute to work. The distribution of commute choices is identified on Table 1.

Table 1 Distribution of Commute Choices of Employed Over the Age of 16 in Oconee County						
Commute Choice	Commute Choice Number Employed Percentage					
Drove alone	23,849	80.7				
Carpooled	4,354	14.7				
Worked at home	608	2.1				
*Other	287	1				
Walked	365	1.2				
Public Transportation	81	0.3				

^{*}Other includes motorcycles, bicycles and other means of transportation not identified.

Industry

Attachment B contains a list of the industry within Oconee County and the most recent annual emission figures.

Public Involvement

Oconee County has begun efforts to encourage public involvement in reducing emissions in various ways. Area municipalities were informed of the effort in the early stages of plan development, and invited to participate. Currently, few have pursued the issue, but it is hoped that, over time, several towns will take an active role in emissions reduction. Also, a range of proposed reduction strategies have been presented in open forums such as Planning Commission meetings, community informational meetings, and County Council committee meetings. These sessions have resulted in significant media coverage, and have

sparked numerous contacts between the Ozone Action Coordinator and various stakeholders. The input gathered from these discussions was used when considering the merits of the reduction strategies.

A formal stakeholder group will be formed to educate and inform the general population. Informational meetings will be held, with local media encouraged to publicize the County's efforts. Other outreach efforts focused on providing the public with easy access to information about ground-level ozone will include a web page with both detailed information, and links to current ozone levels.

Emission Reduction Strategies

Through the development and implementation of this plan, Oconee County will implement local emission reduction strategies that are economically feasible and that make sense for the county. In doing so, the efforts of Oconee County should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a Best Available Control Technology (BACT) regulation; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Local measures must be implemented no later than April 2005. However, Oconee County will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. It is not possible to determine emissions reductions for each of the following strategies. However, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Attachment C is a list of the emission reduction strategies that will be implemented by Oconee County.

Challenges

Oconee County will be faced with challenges regarding the implementation of emissions reduction strategies. Behavior modification will be one of the challenges faced. Oconee County, through the efforts of the Ozone Action Coordinator and stakeholders, hopes to educate local citizens on the air quality standards and the implications of not meeting the standards. Once education efforts begin, the county anticipates behavior modifications by local citizens. It will be through the joint efforts of local government, private citizens, business, and industry that Oconee County will be able to assist the state in meeting and maintaining the 8-hour ozone standard.

An additional challenge lies in the availability of staff and budget to devote to the task. Currently, the duties of Ozone Action Coordinator are assigned to existing staff in the Planning Department. In the event that Oconee County is determined to be in "non-attainment" of the 8-Hour Standard, resources will merit review.

Maintenance

Local measures must be implemented no later than April 2005. However, as previously mentioned Oconee County will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, Oconee County will review and evaluate the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Once the standard is reached in December 2007, and non-attainment designations are replaced with attainment designations, Oconee County will continue to evaluate the effectiveness of the strategies adopted and adjust emission reduction strategies where needed. Maintenance of the standard will depend upon the success of emission reduction strategies implemented by Oconee County and surrounding counties as well as federal and state initiatives.

Attachment A Oconee County Early Action Compact

SOUTH CAROLINA'S 8-HOUR OZONE EARLY ACTION COMPACT Oconee County

The United States Environmental Protection Agency (EPA) has provided an option for areas currently meeting the 1-hour ozone standard, like those in South Carolina, to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than federally mandated. This option offers a more expeditious time line for achieving emissions reductions than expected under the EPA's 8-hour ozone implementation rulemaking, while providing "fail-safe" provisions for the area to revert to the traditional State Implementation Plan (SIP) process if specific milestones are not met. Through the development of this Early Action Compact (EAC), local, state, and EPA officials agree to work together to develop and implement local and state early action plans. The plans will become a part of the state early action SIP to reduce ground-level ozone concentrations to comply with the 8-hour ozone standard by December 31, 2007, and maintain the standard beyond that date. Failure to meet the obligations outlined in this EAC will result in immediate reversion to the traditional non-attainment designation process as required in the Clean Air Act (CAA).

In an effort to provide this information to areas within South Carolina, the South Carolina Department of Health and Environmental Control (DHEC) held six public meetings throughout the state. The locations of the meetings were targeted to areas that could potentially be designated as non-attainment for the 8-hour ozone standard. The meetings were held in Columbia, Greenville, Florence, Rock Hill, Aiken and Charleston. EPA officials participated in five of the six meetings. The general public, local government representatives, industry representatives, and environmental interest groups attended the meetings. Prior to the meetings, DHEC issued a press release regarding the development of an early action SIP. Correspondence including a fact sheet was sent to all county administrators, Councils of Governments, Metropolitan Planning Organizations, public interest groups, industry representatives, other state agencies and others determined to be stakeholders in the process.

The Parties to this (EAC) are: Oconee County, South Carolina Department of Health and Environmental Control (DHEC) and EPA.

I. General Provisions

- A. The parties commit to develop, implement and maintain the early action SIP (which includes the local early action plans) providing EPA defers the effective date of the non-attainment designation and related requirements as long as all conditions of the EAC and key milestones are met.
- B. If the potential area of non-attainment does not meet all the terms of the EAC, then it will forfeit its participation and will be subject to the full planning requirements under applicable CAA

traditional SIP processes including requirements defined as part of the EPA's 8-hour ozone implementation rulemaking.

- C. If the area has had the effective date of a non-attainment designation deferred and the area does not reach attainment of the standard by December 31, 2007, then the non-attainment designation will be effective. If the EPA's implementation schedule also requires a traditional SIP from areas on or before December 31, 2007, then a traditional SIP revision demonstrating attainment by the new attainment date will be due for the non-attainment area no later than December 31, 2008.
- D. Before formal adoption into the early action SIP, this agreement may be modified or terminated by mutual consent of all parties, or any party may withdraw from the agreement by notifying other parties in writing. If a party's withdrawal from the agreement prevents remaining signatories from satisfying any of the terms and milestones of the original agreement, the agreement will be void, any deferred effective date of the non-attainment designation would be, withdrawn and the area's non-attainment designation would become effective soon after. Upon termination or withdrawal from the EAC, the area will be subject to the full planning requirements under applicable CAA traditional processes including requirements defined as part of the EPA's 8-hour ozone implementation rulemaking. The local government signatories will approve the local early action plans before submittal to DHEC for inclusion in the early action SIP. Once the local early action plan is incorporated into the early action SIP, any modifications will be treated as SIP revisions.
- E. Execution of this EAC by each Party shall be by signature of each Party's authorized representative. This agreement remains in effect until December 31, 2007.

II. Early Action Compact Requirements

A. Milestones and Reporting

DHEC and local areas will assess progress towards developing and implementing the early action SIP and make a report available to EPA and the public every six months beginning in June 2003. As per EPA guidance, the key milestones for participation in the EAC are identified in the following table.

Local Plan /Early Ac	tion SIP Milestones	. Professional
DATE	MILESTONE	RESPONSIBILITY
December 31, 2002	EAC signed by all parties and submitted to EPA	Local/State/EPA
June 16, 2003	Discussion of control measures being considered to	Local/State
	EPA	
March 31, 2004	Final local early action plan submitted to DHEC;	Local
	copy to EPA	
December 31, 2004	Early Action State Implementation Plan submitted	State
	to EPA for incorporation into SIP	# 4 Prof
April 1, 2005	Local/State control strategies implemented no later	Local/State
	than this date	
September 30, 2005	EPA takes final action on SIP submitted December	EPA
	31, 2004	
June 30, 2006	State submits progress report to EPA	State
December 31, 2007	Attainment of the 8-hour ozone standard	Local/State

B. Emissions Inventories

- 1. DHEC will be responsible for developing emissions inventories.
- An initial modeling emissions inventory will be completed by December 31, 2002. This
 inventory includes:
 - a. Emissions modeling data for a 1998 episode that is representative of a typical ozone season exceedance that meets the EPA episode selection guidance;
 - b. MOBILE6 for determining on-road mobile emissions;
 - c. NONROAD model data; and,
 - d. Area source database utilizing population data allocated statewide.
- A 2007 future year modeling emissions inventory will be developed by March 31, 2004.
 This inventory will sufficiently account for projected future growth in ozone precursor emissions through 2007, particularly from stationary, non-road and on-road mobile sources.
- 4. Additional inventories will be contingent upon legislative appropriations or other funding. Selection of specific episode inventories will be partially determined by the conceptual model, which reflects an analysis of meteorological conditions typical of high ozone events.
- Emissions inventories will be compared and analyzed for trends in emission sources over time. The emissions inventory comparison and analysis will be completed by December 31, 2003.

C. Modeling

- DHEC will be responsible for conducting the meteorological and air quality modeling
 analysis. DHEC will conduct the modeling analysis based on the "Draft Guidance on the
 use of Models and Other Analyses in Attainment Demonstrations for the 8-Hour Ozone
 NAAQS" (EPA-454/R-99-004, May 1999). The modeling will follow the guidance as
 facilitated by the EPA Regional Office.
- Base case modeling will be completed by December 31, 2002. Future case modeling will
 be completed by October 31, 2003. One or more modeled control cases will be
 completed by January 31, 2004, with final revisions completed by March 31, 2004. All
 modeling will:
 - be SIP quality and perform within EPA's accepted margin of accuracy;
 - be carefully documented;
 - sufficiently account for projected future growth in ozone precursor emissions;
 - be accomplished by DHEC and reviewed by EPA; and,
 - be used to determine the effectiveness of NO_x and/or VOC reductions. The control
 case(s) will be used to determine the relative effectiveness of different emission
 reduction strategies and to aid in the selection of appropriate emission reduction
 strategies.

D. Control Strategies

- All adopted Federal and State control strategies that have been or will be implemented by the December 31, 2007, attainment date will be included in base, future and control case modeling.
- Additional local and state control strategies under consideration will be identified by June 16, 2003. The local and state control strategies selected will be implemented as soon as practical, but no later than April 1, 2005.
- Local and state control strategies will be specific, quantified, permanent and enforceable.
 The strategies will also include specific implementation dates and detailed documentation and reporting processes.
- 4. Voluntary strategies can play a supporting role in the local early action plan and the early action SIP. If emission reductions from voluntary strategies are quantified and credit is taken for them in the local early action plan or the early action SIP, those emission reductions will be enforceable. Additional strategies must be implemented to meet those quantified reduction requirements if quantified voluntary strategies fail. This is true for all quantified emission reductions.
- Local and state control strategies will be designed and implemented with full stakeholder participation.

6. Local and state control strategies will be incorporated by DHEC into the early action SIP. In the event that the local area desires to add, delete or substitute strategies after early action SIP submittal, the local area will request a modification. Local early action plan modifications will be treated as SIP revisions and facilitated by DHEC.

E. Maintenance for Growth

- 1. The early action SIP will include a component to address emissions growth at least five years beyond December 31, 2007, ensuring that the areas will remain in attainment of the 8-hour ozone standard during that period. Attainment maintenance analysis will be completed by January 31, 2004, with final revisions completed by March 31, 2004. The analysis will employ one or more of the following or any other appropriate techniques necessary to make such a demonstration:
 - Modeling analysis showing ozone levels below the 8-hour ozone standard in 2012;
 - An annual review of growth (especially mobile and stationary source) to ensure control measures and growth assumptions are adequate;
 - c. Identification and quantification of federal, state, and/or local measures indicating sufficient reductions to offset growth estimates; or,
 - d. Any other appropriate techniques necessary to make such a determination.
- The early action SIP must also detail a continuing planning process that includes modeling updates and modeling assumption verification (particularly growth assumptions). Modeling updates and planning processes must consider and evaluate the following:
 - a. All relevant actual new point sources;
 - b. Impacts from potential new source growth; and,
 - c. Future transportation patterns and their impact on air quality in a manner that is consistent with the most current adopted Long Range Transportation Plan and most current trend and projections of local motor vehicle emissions.
- 3. If the review of emissions growth in conjunction with the continuing planning process demonstrates that adopted emission reduction strategies are inadequate to address growth in emissions, additional measures will be added to the early action plan. Local planning processes should prepare for this possibility.
- 4. In the event that the continuing planning process identifies the need to add, delete, or substitute control strategies after the local early action plan has been incorporated into the early action SIP, the local area will initiate, and DHEC will facilitate a SIP revision to accommodate changes.

F. Public Involvement

- Public involvement has been and will continue to be strongly encouraged during the planning and implementation process.
- Public awareness programs will be used to provide opportunities for involvement in the
 planning process, implementation of control strategies, and any other issues important to
 the area.
- 3. Interested stakeholders (i.e., local, state, and federal government, citizens, public interest groups, and the business community) will continue to be involved in the planning process as early as possible. Planning meetings will be open to the public, with posted meeting times and locations. Early action SIP drafts will be publicly available, and the drafting process will have sufficient opportunities for comment from all interested stakeholders.
- Opportunities for public comment on the proposed early action SIP will be provided and will follow the traditional SIP revision process as implemented by DHEC.
- Semi-annual reports detailing, at a minimum, progress toward key milestones, will be made available to the public.
- 6. DHEC has established and will maintain a website for South Carolina's Early Action Plan for the 8-hour ozone standard, located at www.scdhec.net/baq/eap.html.

III. Local Government Responsibilities

The local governments agree to develop and implement a local early action plan that will promote the area's attainment by December 31, 2007, of the 8-hour ozone standard and maintenance until at least 2012. The local governments will develop this plan in coordination with the DHEC, EPA, stakeholders and the public. The local early action plan will include a process to evaluate the effectiveness and maintain long-term compliance with the standard.

After all adopted Federal and State controls that have been or will be implemented by the attainment date of December 31, 2007, are accounted for in the modeling, the local area must adopt additional local controls, as necessary to demonstrate attainment of the 8-hour ozone standard by December 31, 2007. Local controls under consideration must be identified and described by June 16, 2003. These measures must be included in the semi-annual report made available to the public.

The draft local early action plan will be submitted to DHEC by August 31, 2003. The final local early action plan will be submitted to DHEC, with a copy forwarded to EPA, by March 31, 2004. The adopted local early action plan will be included in the early action SIP due December 31, 2004.

In the event a development or issue arises that may impact performance or progress toward key milestones (including if a key milestone will be or has been missed and/or if a termination or modification has been requested), the responsible party will notify all other signatories in writing as soon as possible.

IV. The South Carolina Department of Health and Environmental Control

DHEC agrees to develop and implement a state early action SIP that will demonstrate the participating area's attainment by December 31, 2007, of the 8-hour ozone standard and maintenance until at least 2012. DHEC will develop this plan in coordination with the local governments, EPA, stakeholders and the public. The state early action SIP will include a process to monitor and maintain long-term compliance with the standard.

It is the responsibility of each state under the CAA to ensure attainment with all National Ambient Air Quality Standards. At any such time that an area is deemed non-attainment, the state will be required to develop a plan to return the area(s) to attainment in accordance with the CAA. If applicable, South Carolina is committed to working with adjacent states to assure mutual attainment of national standards.

In the event a development or issue arises that may impact performance or progress toward key milestones (including if a key milestone will be or has been missed and/or if a termination or modification has been requested), DHEC will notify all other signatories in writing as soon as possible.

DHEC will provide support to areas throughout the planning and implementation process by:

- Developing emission inventories, modeling, trend analysis, and quantification and comparison of control measures.
- Providing necessary information on all federal and state adopted emission reduction measures, which affect the area.
- Providing technical and strategic assistance, as appropriate, in the selection and implementation of control strategies.
- 4. Providing technical and planning assistance in developing and implementing processes to address the impact of emissions growth beyond the attainment date.
- 5. Maintaining monitors and reporting and analysis of monitoring data.
- 6. Promoting public awareness efforts.
- Coordinating communication between local areas and the EPA to facilitate continuing the EPA review of local work.
- Ensuring expeditious review of local early action plan(s), and if deemed adequate, proposing modification of the early action SIP to adopt the early action plan.

- Adopting control measures into the early action SIP as expeditiously as possible. The final complete early action SIP revision must be completed, adopted, and submitted by the state to the EPA by December 31, 2004.
- 10. Tracking progress. If any milestone is missed and EPA withdraws the deferred effective date, thereby triggering a non-attainment designation and applicable statutory requirements, the state will strive to submit a traditional non-attainment SIP within one year. However, due to the South Carolina legislative review process, it may take at least eighteen months.
- 11. Working concurrently with areas not electing to participate in the early action SIP process in preparing the traditional SIP submittal as required by the CAA.

V. The Environmental Protection Agency

The EPA will participate by:

- Recognizing the local area's and state's commitment to voluntarily adopt an early, substantive, enforceable, and scientifically-based attainment plan with early implementation of control measures by becoming a party to the EAC developed in conformance with South Carolina's Protocol for Early Action Compacts.
- Providing technical assistance to the state(s) and local area(s) in the development of the early action plan.
- Reviewing and approving the completed early action SIP by no later than September 30, 2005.
- 4. Deferring the effective date of non-attainment designation and related requirements for participating areas that fail to meet the 8-hour ozone standard as long as all terms and key milestones of the EAC are being met, including submission of the early action SIP revision by December 31, 2004.
- Designating the area expeditiously as attainment and imposing no additional requirements, provided that the monitors in the area reflect attainment by December 31, 2007
- 6. Taking action to withdraw the deferred effective date if the area violates the standard as of December 31, 2007, and the area has had the effective date of its non-attainment designation deferred. The area's non-attainment designation will become effective soon after.
- 7. Ensuring appropriate credit in the traditional SIP process for all emissions reductions from measures implemented in the early action SIP if the area does not meet all the terms of the EAC; including meeting agreed-upon key milestones and is designated (or redesignated if necessary) according to the EPA's 8-hour ozone implementation guidelines. The EPA will offer such an area no delays, exemptions, or other favorable treatment because of its participation in the EAC.

VI.	Signatures		
United S	tates Environmental Protection Agency	Title	Date
South Co	arolina ent of Health and Environmental Contro	Title	Date
لعر	w.H. Angle	Ca Supervisor	12/03/02
Oconee	County Representative	Title	Date

Attachment B Major Industries in Oconee County

?? West Point Stevens, Inc. **Textiles** ?? Duke Energy Corporation **Energy** ?? Schlumberger SEMA **Electronic Measuring Devices** ?? Schneider Electric/Square D Company **Motor Control Centers** ?? Dunlop Slazenger Group **Sports Equipment** ?? Kendall Healthcare Product Company **Healthcare-related Fabrics** ?? Englehard Corporation **Precious Metal Catalyst** ?? Timken Corporation **Bearings** ?? Kennametal IPG **Twist Drills** ?? U.S. Engine Valve Corporation **Engine Valves** ?? **BP Fabrics & Fibers** Non-woven Fabric ?? BorgWarner Automotive, Inc. **Automotive Components Drill and Tap Chucks** ?? Jacobs Chuck Manufacturing

Attachment C Oconee County Emission Reduction Strategies

Measure	Description	Current assessment of emission reductions	Implementation Date	Geographic area and/or local government
Ozone Action Coordinator	Designation of county staff person to coordinate education efforts and dissemination of ozone related information	Directionally Sound	July 2003	Countywide
Ozone Reduction Meetings	Coordination of meetings with municipalities, stakeholder groups, the public, and other entities	Directionally Sound	2004	Countywide
Lower Emissions in County Fleet	Utilize Capital Improvement Plan to initiate annual review of vehicle and equipment fleet. Upgrade and replace older, less- fuel efficient vehicles and equipment as budget allows; replace improperly operating catalytic converters.	Directionally Sound	2003	County Government
Energy-efficient Buildings	Utilize Capital Improvement Plan to initiate annual review of needed upgrades to county-owned buildings and facilities. Resulting construction and maintenance projects to result in highest level of energy-efficiency practical for the structures.	Directionally Sound	2003	County Government

Reduce Speeding on Highways	County shall support efforts by County Sheriff to emphasize speed and traffic control (this may or may not include expansion of Traffic Control Division of Sheriff's Department)	Directionally Sound	2004	Countywide
Greenspace Regulations	Amend Land Development and Subdivision Regulations to require minimum areas of greenspace and trees in all new county-approved subdivisions	Directionally Sound	2004	Countywide
Include Ozone Reduction in Comprehensive Plan	Include emission reduction efforts as a major goal in the updated Comprehensive Plan	Directionally Sound	2004	Countywide
Intergovernmental Cooperation	Encourage and assist municipalities in taking an active role in countywide emission reduction efforts. This may include supporting efforts by municipalities to develop and expand mass transportation facilities	Directionally Sound	2004	Countywide

Pickens County Early Action Plan for the 8-Hour Ozone Standard

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as nonattainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Nonattainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Pickens County may be designated non-attainment for the 8-hour ozone standard even though monitoring data indicates that Pickens County is meeting the standard. As air knows no boundaries, implementation of its local emission reduction strategies will need the support of other local emission reduction strategies as well as federal and state rules and regulations to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, on-road and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Pickens County has utilized its citizenry in the developed its Emission Reduction Strategies. Stakeholders are involved in the Pickens County Air Quality Advisory Committee, and citizens have been invited to partipate through the public hearing process. Progress reports submitted every six months will provide information regarding public relations, the activities of the Advisory Committee, and a complete listing of public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Pickens County Early Action Compact Milestone - March 2004

Based on stakeholder consultation and taking into consideration resource and political constraints, the following control measures under consideration can be reasonably implemented. It is anticipated these measures under consideration will assist Pickens County in achieving and/or maintaining the 8-hour ozone standard by 2007 and beyond.

Measure under consideration	Detailed description of measure	Current assessment of emission reductions	Proposed date for implementation	Geographic area and/or local government
Public Relations	1)Diesel-retrofit optimization study & implement. Share with fleet owners. 2)Catalytic converter study and implement. Share with public and fleet owners. 3)Detail landfill methane extraction benefits in publications to public 4)Develop Park & Ride program in conjuction with county mass transit. 5) Detail benefits fromspecifications that improve air pollutant emissions 6)Develop publication to promote car pooling 7)Review County "no-idling" plicy with staff and publications to public 8)Notify public on any taxing modifications that promote fewer pollutant emissions 9) Promote development, use and notifications for new and existing mass transit program	Not quantifiable at this time.	April 2005	County wide program implemented by County administration
Ozone Adv Comm	Periodic meetings to oversee the direction of County during implementation of Ozone EAC action items. Continue to develop new courses of action as program continues to develop.	None Available	Completed and ongoing.	County wide program implemented by County administration
Heavy Diesel Retrofits/Alternative Fuel for County Fleet	1)Develop inventory of heavy diesels. Study retrofit technologies and synergy with alternative fuel. Develop economic optimization plan for retrofitting schedule. 2)Look at biodiesel, ULSD, options and incorporate into economic optimization plan for heavy diesel retrofitting. 3) Retrofit vehicles. 4) Schedule heavy-diesel retirement plan for vehicles not retrofitted. 5)Share findings with diesel fleet owners and public relations program.	Not quantifiable at this time	April 2005	County-owned vehicle pool administered by County administration
Catalytic Convertor County Fleet	Evaluate fleet emissions maintenance history for light duty vehicles. Develop SOP if needed to meet mfgr's recommendations. Implement SOP. Report finding to fleet owners and public relations program.	Not quantifiable at this time	April, 2005	County-owned vehicle pool administered by County administration
Landfill Methane	Methane extraction system under construction at Easley Landfill. Document pollutant reductions and report in public relations program.	Unknown at this time	February, 2004	Municipal Landfill owned/operated by County administration.
Park & Ride	Coordinate Park & Ride locations with the development of mass transit in Pickens County.	Not quantifiable at this time.	April, 2005	County wide program implemented by County administration
Contract Specs	Develop SOP for combusion engine purchases and for contract services received from operators of mobile sources.	Not quantifiable at this time.	January 2005.	County-owned equipment pool administered by County administration
Carpooling	Develop brochure for public relations program.	Not quantifiable at this time.	April, 2005	County wide program implemented by County administration
No-Idling Policy	"No-Idling" Policy developed for Pickens County in September, 2003	Not quantifiable at this time.	Completed, 9/2003.	County-owned vehicle pool administered by County administration
Property Tax Rules	Work with Pickens County administration todevelop tax rule modifications that will promote pollutant emissions reduction. Report findings in public relations program.	Not quantifiable at this time.	April, 2005	County wide program implemented by County administration
School Bus Program (Added 12/2003)	County to offer assistance to School District to improve Bus ridership, school parking permits, special restrictions for air quality, May-June emphasis. Traffic control.	Not quantifiable at this time.	8/2004 or 2005	County administration to assist County School District in County-wide program



County of Spartanburg

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Spartanburg, South Carolina 29304

County Administrator

TO:

Elected and Appointed Officials

Department Heads

FROM:

Jim Hartmann, County Administrator

SUBJECT:

Air Quality Awareness and Improvement Procedure

DATE:

October 6, 2004

Spartanburg County recognizes protecting the air quality for the benefit of future generations is in the public's interest. In December 2002, Spartanburg County, the South Carolina Department of Health and Environmental Control (DHEC), and the Environmental Protection Agency, Region 4 office (EPA) entered into an 8-hour Ozone Early Action Compact (EAC). The EAC offers areas the opportunity to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than federally mandated. This opportunity requires an expeditious time line for achieving emissions reductions sooner than expected under the 8-hour ozone implementation rulemaking. However, if Spartanburg County fails to meet milestones established in the EAC or fails to meet the 8-hour ozone standard, participation will be forfeited and the area will be designated according to requirements within EPA's 8-hour ozone implementation rule. If this occurs, the county will lose federal highway funding, and be under severe restrictions for the permitting of new industries.

The purpose of this procedure is to establish certain principles that will guide the recurring activities of County government. Therefore, effective immediately Spartanburg County shall:

- 1. Ensure that all county employees are notified of upcoming Ozone Action Days.
- 2. Encourage car-pooling opportunities.
- 3. Ensure that all County vehicles and equipment are operating according to the manufacturer's specifications.
- 4. Restrict vehicle idling to no more than 5 minutes. Exceptions include emergency vehicles, traffic/weather conditions, and vehicles being repaired, maintained, or inspected.
- 5. Restrict mowing and use of gas powered lawn equipment on County property on Ozone Action Days.
- 6. Restrict all outdoor burning on Ozone Action Days.
- 7. Encourage energy conservation in all County facilities
- 8. Include environmental considerations in purchasing decisions for goods and services. An example of such would be to purchase Energy Star equipment.

Thank you for your cooperation.

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated nonattainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Spartanburg County is a potential area to be designated non-attainment for the 8-hour ozone standard, as are other areas in South Carolina. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can

be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, on-road and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally

sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Early Action Compact – List of Possible Emission Reduction Strategies Under Consideration Upstate Counties of Anderson, Greenville, and Spartanburg (South Carolina) Adopted by the Upstate Air Quality Steering Committee on December 2, 2003

Based on stakeholder consultation and taking into consideration resource and political constraints, the following control measures are under consideration pending modeling that demonstrates compliance in 2007 by SCDHEC. It is anticipated these measures under consideration will assist the County of Anderson, Greenville, Spartanburg, South Carolina, in achieving and/or maintaining the 8-hour ozone standard by 2007.

	Measure under Consideration		Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
1.	Support SCDHEC statewide efforts to reduce ozone levels. Priority A	??	Develop stakeholder group to support and participate in modeling efforts. Develop stakeholder group to participate in development of regulations (NOx – BACT (Best Available Control Technology Economically Achievable), restrict open burning).	Equivalent to removing 359,500 cars from the road or 7190 tons of VOC	Ongoing	Area: Countywide. Agency: SCDHEC, local governments.
	Measure under Consideration		Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
2.	Designate an Ozone Action Coordinator Priority A	??	Designate a staff person in each County who will be responsible for coordination of counties ozone programs.	Not applicable.	March 2003	Area: Countywide. Agency: local governments.
	Measure under Consideration		Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
3.	Seek low sulfur fuels as early as possible. Priority A	??	Continue to coordinate with representatives of Colonial and Plantation pipelines, refiners, and State representatives to ensure that the upstate has the opportunity to receive low sulfur fuels at the earliest date as they can be provided.		Ongoing	Area: Countywide Agency: local governments.
	Measure under Consideration		Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
4.	Design and implement congestion management and Intelligent Transportation System (ITS) measures. Priority A	??	Implement congestion management projects: intersection and signalization improvements to alleviate traffic congestion, therefore, reducing emissions from idling vehicles; Implement Intelligent Traffic Systems such as automa ted advisory/alert messages to drivers on interstate highways. For example: advise motorist about an accident ahead and the use of alternate routes to avoid congestion, which minimize emissions from idle vehicles. Encourage and support improved traffic operational planning, engineering and maintenance for existing		2003 and ongoing	Area: Cities and Counties major corridors. Agency: GRATS, SPATS, and ANATS.

Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
and future transportation infrastructure.				

	Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
5.	Use of hybrid vehicles. Priority A	 ?? Encourage people, public and private organizations to purchase hybrid vehicles as they replace vehicles/fleet ?? Encourage that 10% of public agencies fleet have hybrid vehicles (use of hybrid vehicles does not require changes in infrastructure for dispensing fuel). ?? Encourage public agencies to require purchasing hybrid electric vehicles (HEVs) through the State vehicle contract. 		Counties: 2004-2005. Other local governments as soon as practical.	Area: countywide. Agency: local governments.
	Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
6.	Use higher efficiency engines for school buses. Priority A	 ?? Require purchase of high efficiency engines for school buses as they are replaced. In South Carolina, the SC Department of Education is in charge of maintenance of school buses. DHEC is working with SC Department of Education to obtain grants from EPA. ?? Promote an Adopta-School-Bus program. ?? Endorse a statewide recommendation for the State to take the lead. 		As soon as practical.	Area: countywide. Agency: State and local governments.
	Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
7a.	Develop incentive programs and opportunity for citizens to choose alternative transportation modes. Establish intermodal connections with an emphasis on mass transit Priority A	WALKING/BIKING: ?? Encourage local government to increase pedestrian/bicycle infrastructure spending (he Upstate spends 2¢ per person compared to SC spending 22¢ per person). ?? Establish safer bike routes with better signs marking lanes and routes. ?? Increase highway funding for bike paths, walking or mass transit including high-speed rail. Support the federal transportation enhancement program. ?? Install bike racks on all transit vehicles to encourage intermodal transportation. New buses purchased through the state's bus purchase program will have bike racks. PARK and RIDE:		2004	Area: Multi-County. Agency: Related agencies.

7b. Offer free or reduced transportation cost on high ozone days. Priority A	 ?? Establish mass transportation between a plant and a park-and-ride site. CARPOOLING: ?? Work with local government to offer incentives for employees to car pool. MASS TRANSIT: ?? Offer a free trolley service running in a loop in downtown areas and nearby restaurants, especially during lunch hours; ?? Research past feasibility studies on free downtown shuttles. Potential for sponsorship with local area restaurants and businesses for a lunch time shuttle - could defer the operational costs of the endeavor. ?? Support mass transit (transportation choices and alternatives): While the only local mass transit choice that is currently available in some areas is the transit bus, example of future options such as bus rapid transit, commuter passenger service offered by trains on existing rail systems, a diesel multiple unit or "light rail" should be supported. MASS TRANSIT: ?? Implement a coordinated high ozone day alert action plan to include public notification and free or reduced ozone fares from the transportation 		2004	Area: Multi-County. Agency: local transit providers and related agencies.
7c. Reduce vehicle miles traveled by developing efficient user-friendly transit systems. Priority A	?? Integrate transportation planning with land use planning so public transit can make a comprehensive contribution to economic development and mobility; ?? Remove local barriers to densification in downtowns, infill areas, and transit stations and corridors.		2004	Area: Countywide. Agency: local transit authorities.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
Review and update air emission inventory for the Upstate. Priority A	 ?? Ensure all industrial sources still operating. Review industrial sources for plant closures. ?? Identify major sources of NOx. ?? Map the locations of point sources (10% of point sources cannot be found). ?? Map the specific locations and the area sources where coal is burned. 	NOx: Over 1,000 tpy of NOx emissions (possibly as much as 3,156 tpy) may be overstated in the Upstate area source emission inventory. VOC: Over 7,000 tpy of VOC emissions (possibly as much as 20,191 tpy)	Fall 2003 Prior to final Urban Airshed Model runs	Area: Countywide. Agency: SCDHEC.

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Upstate area source	
emission inventory.	

Measure under Consideration	Detailed description of measure	Current as sessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
9. Support SCDHEC in evaluating and seeking reductions from major sources based on modeling. Priority A	 ?? Coordinate with Duke Power to determine what NOx reductions are planned for the Lee Steam Plant. ?? Coordinate with the Williams Company to determine what NOx reductions are planned for the Transco Pipeline. ?? Support NOx reduction strategies in the State Implementation Plan. ?? Develop an Early Reduction Program with incentives for industrial facility (Tier Two Type emission NOx sources) 	2,000-4,000 tpy NOx from SIP Call Potential 500-1000 tpy NOx (Tier Two)	2005	Area: Countywide. Agency: local governments, Chambers of Commerce, utilities, business and industry.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
Develop a program to offer to purchase or repair smoking vehicles (known as cash for clunkers). Priority A	 ?? Use funds generated from a license plate sales, registration fees, or license plate tax program to buy or repair high emitting vehicles from individuals. ?? Purchase such vehicles from non-profit groups such as the Kidney Foundation, Goodwill, Salvation Army when they have been donated as charitable gifts. ?? Consider accelerated vehicle retirement (scrappage) programs to encourage vehicle owners to voluntarily retire their vehicles sooner than they would have otherwise. 		2005	Area: countywide. Agency: local governments.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
Ban open burning of on-site commercial clearing debris during ozone season (April to October). Priority A	Use SCDHEC model to determine the most effective method to ban open burning. Discuss modeling results with all local governments to consider adoption.		2004	Area: countywide. Agency: SCDHEC and local governments.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
Create incentives for the purchase of high efficiency and low emissions vehicles. Priority A	?? Offer tax credits for vehicles with high efficiency gas consumption or low emissions.?? Offer tax credits for low mileage vehicles instead of high mileage vehicles.		2005	Area: Statewide. Agency: State and county governments.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
Use land-use and transportation planning to improve air quality. Priority A	?? Include air quality measures as a part of the land- use and transportation planning process.		2004	Area: countywide. Agency: local governments.

	Measure under Consideration		Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
14.	Implement a program to encourage use of green power. Priority A	??	Capture emissions from landfills to produce green power, e.g., BMW is utilizing Palmetto Landfill emissions to produce energy for its plant. Implement a Purchase Green Power program when available. Green power is electricity generated by renewable resources like solar, wind, and even decomposing garbage in selected landfills. These resources are replenished naturally and minimize harm to the environment.		2004	Area: countywide. Agency: local governments.
	Measure under Consideration		Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
15.	Promote route efficiency for delivery vehicles, trash collection etc. Priority A	??	Encourage business to consolidate distribution and collection routes to improve efficiency and reduce emissions from their fleets. Maximize route efficiency for public services such as garbage collection, delivery vehicles, and other vehicle trips to reduce fuel usage.		2004	Area: countywide. Agency: Chambers of Commerce
	Measure under Consideration		Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
16.	Establish a clean air partnership with business and industry. Priority A	?? ?? ?? ?? ?? ?? ??	Encourage and coordinate alternate work schedules such as staggered work hours for business, industry and local governments. Establish park and ride lots serving perimeter counties along major corridors. Make the public aware of the park-and-ride concept: media could assist in publicizing which programs are available. Encourage carpooling/vanpooling as an option where employees living in the same area agree to ride to work together rather than to drive their individual vehicles to work. Consider parking facility controls that can include employers offering a tax-free transit/vanpool benefits and which limit the amount of parking and encourage carpooling, mass transit, etc. Encourage telecommuting. Adopt a Bus Program. Develop funding to be used for matching grants fund for several EAP Strategies. Develop a core competency and assisting the Upstate EAP group in writing grant proposal	Significant in the area of grants and local non-local tax funds generation.	2004	Area: countywide. Agency: local governments, local business, and Chambers of Commerce.

Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
17. Establish an active public awareness campaign. Priority A	 ?? Develop an editorial board to discuss air quality issues and development of a relationship with media. o Use alert messages year round, not only during ozone season. o Utilize public service announcements, newspapers, weather channels, and other media outlets to notify citizens of high ozone days. o Utilize TV Channels to issue high ozone alerts using the crawl bar at bottom of TV screens. ?? Encourage health organizations to sponsor ozone alerts in media. ?? Enhance ozone awareness (Outreach - Communication): assign a local agency to develop and implement a program to educate and motivate individuals to take actions to minimize ozone pollution. Includes a focused distribution of educational materials, dissemination of SCDHEC ground-level ozone forecast, increased media alerts to specific audiences, and includes action oriented components (i.e. ridesharing, telecommuting, etc.). ?? Develop a campaign to encourage things such as refueling vehicles during evenings, not topping off tanks when refueling, using lawnmowers during evenings instead of during high ozone hours, using of electric lawn mowers. ?? Develop a license plate program to generate revenue to implement the public awareness campaign. ?? Develop awareness program on tax savings for purchasing high efficiency vehicles. 		2004	Area: countywide. Agency: local governments, local media, health organizations, and Chambers of Commerce.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
18. Promote research in energy efficiency at local universities, industries, energy companies, federal government, and other institutions that improve air quality. Priority A	 ?? Establish programs to research energy efficiencies at local universities, e.g., Institute for Energy Studies at Clemson University. ?? Encourage business and industry to utilize the research from these programs to make the best decision concerning the purchase or upgrade of furnaces and boilers. 		2005	lagency: local universities.

	?? Encourage fuel cell and other hydrogen based research.			
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
19. Use of alternate fuels. Priority B	 ?? Direct local Planning Commissions to identify areas where alternative fuels will be best suited. ?? Encourage the use of alternate fuels; ?? Assist with establishing alternative fuel infrastructure for private sector clean fuel fleets. Fuels other than gasoline and diesel that are used to power on-road vehicles. Examples of alternate fuels include bio-diesel, electricity, ethanol, hydrogen, liquefied petroleum gas, methanol, and natural gas. ?? Assist with establishing alternative fuels for public fleets. Fuels other than gasoline and diesel that are used to power on-road vehicles. Examples of alternate fuels include bio-diesel, electricity, ethanol, hydrogen, liquefied petroleum gas, methanol, and natural gas. ?? Encourage a clean-fuel fleet program for centrally fueled fleets of more than 10 vehicles 		Ongoing	Area: Countywide. Agency: local businesses and local governments.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
20. Evaluate the use of High Occupancy Vehicle (HOV) lanes using existing lanes. Priority B	 ?? Evaluate use of HOV on three (3) lane interstate highways; ?? Show the advantages of designating HOVs; ?? Pass laws establishing regulations on HOVs lanes such as the threshold in the number of passengers (perhaps two) in the vehicle using HOVs lanes and time of day for the lane to be designated as HOV (rush hour). ?? Pass laws authorizing issuance of tickets for violations of HOVs lanes regulations, i.e., one-passenger vehicles using HOV lanes on designated hours. 		2005	Area: Interstate limited access highways. Agency: SCDOT and SCDHEC.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
21. Modify speed limits for optimum fuel efficiency. Priority B	?? Direct SCDHEC and SCDOT to take the lead role.?? Direct Planning Commissions to assist SCDHEC in modeling.		2005 or 2006	Area: Interstate highways. Agency: State Legislature and SCDOT.

Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
22. Develop process for evaluating and minimizing impact of major projects such as shopping centers, schools, and subdivisions. Priority B	?? Study impact of post construction traffic flow.?? Study impact of construction activities.		2004	Area: countywide. Agency: local governments.
Measure under Consideration	Detailed description of measure	Current assessment of emission reductions	Proposed Date for Implementation	Geographic Area and/or Local Government
23. Community Schools to reduce vehicle miles traveled and encourage biking and walking for students and parents by encouraging smaller community-based schools that are integrated into neighborhoods Priority B	 ?? Eliminate minimum acreage requirements for school sites. ?? Cap student populations per facilities. ?? Require coordination among school boards and local governments to plan school sites and avoid conflicts with local planning goals. ?? Favor restoration and construction of community-based small schools over new construction of remote mega schools. 			Area: countywide. Agency: local governments, planning commissions, and school boards.

Berkeley-Charleston-Dorchester Area

Local Early Action Plans

March 2004



March 9, 2004

Henry Phillips SCDHEC Bureau of Air Quality 2600 Bull Street Columbia, SC 29201

Re: Early Action Plan for Berkeley County

Dear Mr. Phillips:

The attached Early Action Plan for Berkeley County is hereby submitted to the South Carolina Department of Health and Environmental Control for submittal to the Environmental Protection Agency, Region 4 office for inclusion in the Early Action State Implementation Plan.

As required by the South Carolina 8-hour Ozone Early Action Compact, Berkeley County will continue to submit progress reports every six months documenting progress on implementing emission reduction strategies by April 1, 2005.

If you have any questions, please contact me at 843/719-4094 or Madelyn Robinson at 843/719-4164.

Sincerely,

James H. Rozier, Jr. Berkeley County Supervisor

Enclosure

BERKELEY COUNTY

Early Action Plan for the 8-Hour Ozone Standard March 2004

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

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Although the County is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

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Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Staff most recently met in January 2004 to begin finalizing the County's list of emission strategies by dividing the list into first, those strategies already in place and/or will be implemented by April 2005 and secondly, those strategies the County would like to continue researching for future implementation (i.e., the purchase of hybrid whicles to replace "outgoing" vehicles in the County's fleet). This staff meeting was followed by presentation to County Council's Committee on Human Services in February and March.

Continued meetings are planned with staff, County Council and the Berkeley Charleston Dorchester Council of Governments to research and exchange ideas and present information.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the County will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The State is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that may be reasonably implemented by the County dependent upon resource and political restraints. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the County anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The County will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Early Action Compact Plan – March 2004 List of Emission Reduction Strategies

BERKELEY COUNTY

According to the latest 8-hour ozone monitoring data, Berkeley County should maintain current attainment for the 8-hour ozone standard. However, in an effort to assist other areas in South Carolina and in the interest of public health and the environment, in December 2002, Berkeley County agreed to participate in the 8-hour ozone early action process. Therefore, based on stakeholder consultation and taking into consideration resource and political constraints, the following emission reduction strategies are currently being conducted with an additional list of strategies under consideration. Because this Plan is being submitted during the County's budget development process for FY2004-2005, to list strategies not currently on-going may result in the County not adhering to its commitment to the Early Action Compact. Therefore, Berkeley County will continue to evaluate possibilities to improve the air quality within the County and will continue to implement one or more of the following measures listed within the two tables as effective with regards to resource and political constraints.

			Proposed	Geographic area
Measure under	Detailed description of measure	Current assessment of	date for	and/or local
consideration		emission reductions	implementation	government
Awareness	Joined and currently participate in the SC Early		December 2002	Countywide
	Action Plan for 8-hour ozone standard	Directionally Sound	On-going	
Awareness	Meet with SCDHEC staff and County staff to collect		June and October	Countywide
	and disseminate information including ideas and	Directionally Sound	2003, February	
	suggestions that will attempt to maintain current		2004	
	attainment for County. Forwarded information to		On-going	
	municipalities, the Water and Sanitation Authority			
	and the School District within the County.			
Awareness	Information for public available with applicable web		June 2003	World Wide Web
	links on the County's website	Directionally Sound	On-going	
Awareness -	Current policy of turning off lights, computers and		June 2003	County owned
Energy	HVAC units daily of County equipment in	Directionally Sound	On-going	facilities
	accordance with Energy Management Guidelines.			
Awareness -	Best management practices in accordance with	Directionally Sound	On-going	County owned
Energy	Energy Management Guidelines (HVAC control			facilities
	systems)			
Ozone Action	Designated County staff person responsible for	Directionally Sound	March 2003	Countywide
Coordinator	ozone education/outreach and dissemination of	-		-
	ozone standard.			

Land Use	Zoning ordinance requires landscaped buffers	Directionally Sound	August 2001	Unincorporated areas
	between unlike uses, including trees and shrubs.		On-going	of County
Land Use	Endorse cooperative initiative between County, Conservation District and Conservation Trust of "Greenspace Initiative" that promotes the protection and conservation of recommended areas on a strictly voluntary basis.	Directionally Sound	September 2000 On-going	Countywide
Conservation	Implement "Greenspace Initiative"; promote the protection and conservation of properties in accordance with the plan established in September 2000. Currently, 44% of the County is "green/blue space" (33% land, 11% water) in conservation.	Directionally Sound	September 2000 On-going	Countywide
Land Use	Encourage the development of non polluting industries	Directionally Sound	On-going	Countywide
Conservation	Promote and encourage increased activity of recycling goods (plastics, metal, glass, etc.) through the Berkeley County Water & Sanitation Authority	Directionally Sound	On-going	Countywide
Conservation	Berkeley County Water & Sanitation Authority actively involved in composting and educational programs for backyard composting.	Directionally Sound	On-going	County landfill and countywide
Conservation	Berkeley County Water & Sanitation Authority installed passive gas vents during the closure of the County's "Pre-Subtitle D Landfill".	Directionally Sound	Prior to 2004	County landfill
Mobile Sources	Replaced gasoline golf cart with electric model.	Directionally Sound	2002	Cypress Gardens
Mobile Sources	Purchased two replacement vehicles for Sheriff's department with Flex Fuel (ethanol mixture or regular fuel) alternative.	Directionally Sound	February 2004	County Sheriff's department
Mobile Sources	Operate on scheduled maintenance of vehicles to ensure best management practices are being utilized to decrease the buildup of pollutants in engines.	Directionally Sound	On-going	County's Maintenance Garages
Mobile Sources	Support staggered work schedules to mitigate commuter traffic congestion and provide citizen service	Directionally Sound	On-going	Applicable County departments

This second list of emission reduction strategies include areas of concern and ideas the County continues to research and consider as budgetary means allow. However, this list of measures is being presented as strategies which may be implemented by April 2005, rather beyond this timeframe.

			Proposed	Geographic area
Measure under	Detailed description of measure	Current assessment of	date for	and/or local
consideration		emission reductions	implementation	government
Awareness -	Purchase "Green Power"		When reasonably	County owned
Energy		Directionally Sound	cost effective	facilities where
				available
Awareness -	Participate in "Rebuild South Carolina" (County has	Directionally Sound	When reasonably	Countywide
Energy	participated in the past)		cost effective	
Awareness-	Install solar heat system in new County facilities or	Directionally Sound	When reasonably	New County owned
Energy	those to be renovated.		cost effective	facilities or those to
				be renovated
Mobile Sources	Consider continued replacement of gasoline golf	Directionally Sound	When reasonably	Specific County
	carts with electric golf carts (current concern is		cost effective	departments
	payload capacity)			
Mobile Sources	Consider purchase of hybrid vehicles for	Directionally Sound	When reasonably	Specific County
	departments that primarily utilize their vehicles for		cost effective	departments
	traveling on highways.			
Mobile Sources	Support development of park and ride facilities	Directionally Sound	When reasonably	Regional
	within the tri-county region		cost effective	
Conservation	Extending current pilot program for the installation	Directionally Sound	When program is	County landfill
	of flares (to burn and neutralize any potentially		determined and	
	harmful emissions) at the closed "Pre-Subtitle D		reasonably cost	
	Landfill" and if successful, additional flares will be		effective for	
	purchased and installed.		expansion of	
			program	

Conservation	Berkeley County Water & Sanitation Authority in	Directionally Sound	When reasonably	County municipal
	preliminary planning stages of long range program		cost effective	landfill
	for the installation of a landfill gas extraction system			
	including a gas to energy (LFGTE) facility which			
	would also help minimize potentially harmful			
	emissions at its operational municipal solid waste			
	landfill.			

843.958-4001 Fax: 843.958-4004 rwindham@charlestoncounty.org Lonnie Hamilton III Public Services Building 4045 Bridge View Drive, Suite B238 North Charleston, SC 29405

Roland H. Windham, Jr.County Administrator

March 10, 2004

Henry Phillips SCDHEC Bureau of Air Quality 2600 Bull Street Columbia, SC 29201

Dear Mr. Phillips:

The attached Early Action Plan for Charleston County is hereby submitted to the South Carolina Department of Health and Environmental Control for submittal to the Environmental Protection Agency, Region 4 office and inclusion in the Early Action State Implementation Plan.

As required by the South Carolina 8-hour Ozone Early Action Compact, Charleston County will continue to submit progress reports every six months documenting progress on implementing emission reduction strategies by April 1, 2005.

If you have any questions, please contact Linda Slater in my office. She can be reached at 843 958-4006, or lstater@charlestoncounty.org.

We very much appreciate your office's support as we have worked through the requirements of this initiative.

Sincerely,

Roland H. Windham, Jr. County Administrator

Attachment: List of Emission Reduction Strategies

Charleston County Early Action Plan for the 8-Hour Ozone Standard

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives. Charleston County meets regularly with a regional stakeholder group which comprises representatives from Berkeley, Charleston and Dorchester counties, the BCD Council of Governments, our regional transportation authority, local school districts, the Coastal Conservation League, Sierra Club, area industries, area universities, and others with an interest or stake in reducing pollutants which cause ground-level ozone.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing rew and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Early Action Plan for

Charleston County List of Emission Reduction Strategies

According to the latest 8-hour ozone monitoring data, Charleston County should remain attainment for the 8-hour ozone standard. However, in an effort to assist other areas in South Carolina and in the interest of public health and the environment, in December 2002, Charleston County agreed to participate in the 8-hour ozone early action process. Therefore, based on stakeholder consultation and taking into consideration resource and political constraints, the following emission reduction strategies will be implemented April 1, 2005

Measure under consideration	Detailed description of measure	Current assessment of emission reductions	Proposed date for implementation	Geographic area and/or local government
Appoint an Ozone	Larry Hodge, Risk Manager, will monitor DHEC website,	Directionally	On-going	County-wide
Action Coordinator to	and coordinate with Jamie Thomas, PIO, to notify county	sound	beginning with	
alert media and	departments when local levels are elevated; and with Radio		2003 Forecast	
public on high ozone	Communication Manager to alert field employees. (Note:		Season	
days.	currently DHEC does not do forecasts for the Lowcountry.)			
	Information also will be included on County website, for			
	public access. When DHEC alerts are available for this			
	area, Jamie will coordinate media notifications. Ozone			
	action alerts will be posted to the Amber Alert System, if			
	local levels reach the warning or action stage.			
Add Ozone Alert to	Public Information Office has added Ozone Danger	Directionally	2003 Forecast	County-wide
Emergency	information to Emergency Information section of County	sound	Season -	
Information on	web-site (www.charlestoncounty.org). Information links to		completed	
County website.	DHEC Spare the Air Ozone Forecast and to EPA			
	informational sites. Ozone reduction measures and			
	information are included.			
Increase opportunity	The county website allows residents to conduct a great deal	Directionally	On-going	County-wide
for residents and	of County business on line, thus eliminating vehicle trips	sound		
businesses to conduct	to County office locations. E-business opportunities are			
electronic	being expanded constantly.			
transactions with the				

county, eliminating				
drive time.				
Promulgate list of	The County will share its strategies with local government	Directionally	FY 2004	County-wide
strategies to local	entities within the county to promote regional efforts and	sound		
government entities.	encourage similar actions at the municipal level			
Develop and	Charleston County, through its Public Information Office	Directionally	On-going	County-wide.
implement an ozone	and Safety and Risk Management Office, will develop a	sound	beginning	
public education plan.	comprehensive public information campaign related to		FY2004	
	health impacts of ground-level ozone, and strategies to			
	reduce ozone producing emissions. This will address best			
	driving practices, fueling, vehicle maintenance, lawn			
	mowing, consumer education and other measures. If			
	funding or private partnerships are identified, programs to			
	test gas caps and provide replacements, or others, will be			
	implemented. Information will be disseminated through			
	newsletters, website, public service announcements and			
	public events.			
Expand use of hybrid	Charleston County currently has one hybrid car in its fleet,	Directionally	FY2005 and on-	County
cars.	a Honda Civic used by the Solicitor (1.3-liter 4-cylinder	sound	going	government
	gasoline engine with a 10-kilowatt electric motor). Fuel			
	efficiency is estimated at 46/51 city/highway miles per			
	gallon. As funding allows, additional hybrid vehicles will			
	be added to the fleet where use and mileage history provide			
	a suitable fit. It is recognized such replacement would			
	impact four cost centers: replacement, training, shop			
	equipment and operating (parts) costs. Implementation will			
	be dependent on commitment to and availability of			
<u> </u>	funding.	D: 4: 11		G.
Implement criteria to	Charleston County has developed criteria to evaluate	Directionally sound	FY2005 and on-	County
evaluate departmental	vehicle requests, which include consideration of miles	Soulia	going	government
vehicle requests.	driven, and industry standards based on user requirements.			
	The goal is to 'right-size' the county fleet, considering both			
T. 1 11.1. 6 1	the number of vehicles and the size and/or type of vehicle.	Directionalle		G
Include vehicle fuel	Fuel efficiency and emission ratings are included in	Directionally sound	On-going	County
economy and emission	specifications for procurement of vehicles.	Soulia		government
ratings in				
procurement				

specifications.				
Purchase vehicles and	The EPA has announced more protective tailpipe emission	Directionally	Phased in over	County
light trucks to meet	standards for all passenger vehicles, including sport utility	sound	five-year period	government
new EPA standards	vehicles, vans and pick-up trucks. The agency also has			
on emissions .	developed lower standards for sulfur in gasoline which will			
	require passenger vehicles to be significantly cleaner. Both			
	take effect beginning in 2004. Charleston County will			
	comply with the new standards as they are phased in and as			
	we replace vehicles.			
Purchase replacement	The EPA has developed heavy-duty engine and vehicle	Directionally	Phased in as	County
diesel heavy-duty	emission standards and highway diesel fuel sulfur control	sound	EPA	government
highway trucks, as	requirements which will take effect with the vehicle model		requirements	
needed, which comply	year 2007. As funding is available, and as replacements		become	
with most recent EPA	are needed, Charleston County will comply with the EPA		effective and	
standards for PM and	requirements		vehicles to meet	
NOx emissions, and			them are	
which utilize low			available.	
sulfur diesel fuel.				
To meet EPA	It is recognized that sulfur provides lubricity for engine	Directionally	Phased in over	County
requirements, convert	operation and that low-sulfur gasolines currently cannot be	sound	five year period	government
to use of low-sulfur	used effectively fleet-wide. As low-sulfur fuel is available			
gasoline.	locally, and we acquire vehicles with the technology to			
	utilize it, we will add or convert tanks and pumps to supply			
	it to our fleet. Cost impacts will be factored in to any			
	implementation plan.	D: .: 11		
Consider pilot/test of	In conjunction with area fleets and diesel users (ex.:	Directionally	FY 05 or later;	Regional area
bio-diesel fuel for	CARTA, school district), County fleet staff may test a B20	sound	timeline	
limited vehicle use.	bio-diesel fuel in designated vehicles. A tank for joint use		dependent on	
	would be established in the Azalea Road area, filled by a		cost subsidies	
	local supplier with a soy-diesel mix. Cost subsidies are			
	being investigated to promote this project. It is recognized			
	that bio-diesel fuels increase lubricity and engine			
	efficiency; and also lower particulate matter although increasing NOx emissions.			
Develop Best	Working with involved departments, staff will formulate	Directionally	FY2004	County
Practices for driving	Best Operational Practices for driving and fueling County	sound		government
	2 to to operational resources for arriving and receiving country			D

and fleet fueling. Addressing public	fleet. While these may be related to ozone reduction, they would be applicable throughout the year. They would encourage fueling early or late, limiting idling, frequent tire pressure checks, driving at the speed limit, no topping off gas tank, etc. Department heads would incorporate BOPs into operating procedures to the extent feasible. Charleston County has adopted a comprehensive land use	Directionally	Ongoing	County-wide
transit options,	plan, which is updated every five years. As appropriate,	sound	ongoing	county wide
pedestrian and bike	this plan encourages the development of mass transit			
lanes and other	opportunities, trip reduction, alternative transportation			
planning strategies in	methods and mixed-use communities.			
comprehensive land-				
use planning.		5: : !!		
Modify lawn	Charleston County will take measures to modify lawn	Directionally sound	Phased in over	County-wide
maintenance practices	maintenance practices and utilization of small engine	Sound	five years	
to discourage use of	equipment so as to limit ozone-producing emissions. Most			
gas-powered engines during high ozone	County lawn maintenance is under private contract. The RFP will be amended to include clean air practices during			
hours; and develop	the next bidding cycle. Many departments maintain small			
department guidelines	engine equipment for specific purposes. Two-cycle			
to replace two-cycle	equipment will be replaced with four-cycle when practical.			
small engines with				
four-cycle engine				
small equipment.				
Expand in-house	Charleston County Safety and Risk Management currently	Directionally	FY2004 and on-	County
testing for gas and	tests facilities for air quality. Testing will continue as	sound	going	facilities
pollutant buildups in	appropriate. It is to be noted that as a result of such testing,			
garages and other	diesel forklifts have been replaced by propane powered			
facilities; post signs in	forklifts in our recycling center and other locations. Signs			
parking garages to	will be posted in County owned parking garages as an			
discourage idling.	awareness and education measure, to ask users to limit			
	idling. Fans are being installed in parking garages to			
	improve air circulation.	Directionally	EV2004 1	
Employ building	With the use of technology, Charleston County's Facilities	Directionally sound	FY2004 and	County
energy conservation	Management team currently employs energy conservation	Sound	ongoing	facilities
measures.	measures at its high use facilities (the Public Services Building, Judicial Center, County Office Building,			
	Dunuing, Judicial Center, County Office Building,			

Study and implement	Charleston Center, Main Library, and the Historic Courthouse) by scheduling down time of utilities when unoccupied or reducing utility services when not required. This program will be expanded to include all Regional Libraries and any new large facilities coming on line. We are currently installing an HVAC control system in the Otranto Regional Library. Also the new Johns Island Regional Library will have this capability when construction is completed. Where ever possible, new energy efficient light bulbs (T-8s and low pressure sodium) are being used. Energy audits will be conducted for our large facilities either in-house or by contract. We will use premium efficient components when replacement parts are required for condensers, compressors, hot water heaters, motors, etc. Charleston County will investigate opportunities to expand	Directionally	On-going,	Departments
flex hours.	the practice of flexible hours, which is currently utilized by some departments. This would reduce traffic congestion and vehicle emissions created by all employees arriving and leaving at the same time.	sound	beginning FY2004	as appropriate
Encourage walking, biking, car-pooling	Bike racks will be installed where biking is safe and space allows around county buildings. As part of the ozone education program, employees will be encouraged to walk or bike to work, and/or to look for safe opportunities to ride-share or car-pool.	Directionally sound	FY 2005 and on-going with education program	County employees and facilities.

Formation of regional	Charleston County is meeting with BCD Council of	Directionally	On-going,	Tri-County
stakeholders group.	takeholders group. Governments, Berkeley and Dorchester Counties, urban		beginning	area (Berkeley,
	and rural transportation authorities, Clemson Extension,		FY2004	Charleston,
	MUSC, school districts, area industry, environmental			Dorchester)
	groups and others. Ongoing discussions center on			
	education, transportation, intermodal/alternative			
	transportation strategies, advanced technology vehicles,			
	alternative fuels, car-pooling and use of public transit,			
	development of park and ride facilities to complement			
	public transit routes, etc. This group continues to evolve			
	and grow. We have met on the following dates: July 24,			
	August 14, September 18 and November 13. in 2003; and			
	February 26 in 2004.			

DORCHESTER COUNTY

Final Early Action Plan for the 8-Hour Ozone Standard

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, and 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). On December 20, 2002, Mr. Colin Martin, County Administrator signed an Early Action Compact (EAC) for Dorchester County.

Participants in the EAC include Dorchester County, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although **Dorchester County** is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations by **Dorchester County** will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure. The following 2001 statistics are for **Dorchester County** and were collected by the Bureau of Epidemiology at DHEC:

- ?? (6.4) percent of the adults suffer annually from asthma;
- ?? 178 hospitalizations were due to asthma;
- ?? 165 children under the age of 18 visited the Emergency Room due to asthma; and,
- ?? Asthma is the leading cause of hospitalization for children under the age of 18.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and biogenic (natural) sources. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, on-road and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Biogenic or natural sources for VOCs are released from vegetation, mostly pine trees in South Carolina. Biogenic or natural sources for NOx are very rare and include emissions from soil, lightning, and oceans. The following figures for Dorchester County show the percentage of sources by category for NOx (Figure 1) and VOCs (Figure 2).

Figure 1-NOx

Sources of Nox

(Oxides of Nitrogen)

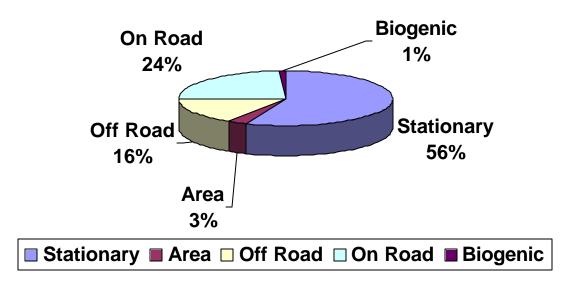
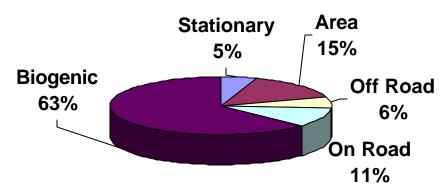
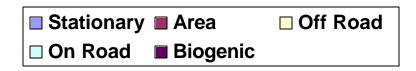


Figure 2 - VOC

Sources of VOC

(Volatile Organic Compounds)





Emissions of NOx and VOC are precursors to the formation of ozone. South Carolina is sometimes referred to as "NOx limited." This means that small amounts of NOx enable ozone to form rapidly when VOC levels are relatively high, but ozone production is quickly limited by the removal of NOx. Under these conditions, NOx reductions are highly effective in reducing ozone while VOC reductions have little effect. Figure 1 shows that 56% of NOx emissions is from Stationary Sources (Electrical Generating Plants) an element that cannot be easily changed without a drastic effect on Quality of life issues. The second greatest source of NOx emissions is (24%) from on-road sources (vehicle exhaust). With such a high percentage of NOx coming from on-road sources, it would appear that reductions from mobile sources would be beneficial.

Demographics

Dorchester County is 575 square miles I area with a population of 96,413 (as of August 2000) according to the 2001-2002 South Carolina Statistical Abstract. The population density is 168 persons per square mile of land area. There are a total of 695 miles of interstate, state primary and state secondary roads in the county. In addition, the County maintains over 300 miles of public roads. Dorchester County had 74,663 vehicles registered in the county, ranking Dorchester County 15th of 46 counties owning the greatest number of registered vehicles.

Dorchester County and its municipalities all have Comprehensive Plans wherein we promote preservation of our natural resources. Most incorporated areas have Tree Ordinance's to promote natural shade in its development plans as well as commercial parking lots. Promoting natural shade reduces the need for air conditioning in homes and for vehicles. The County Zoning and Subdivision Ordinances encourages development be directed to areas that already have sewer and water (toward in-filling) vacant areas in urban areas). This restricts the development of utility services to areas of minimal growth and clusters people within a smaller geographical area making mass transportation more cost efficient and convenient. Dorchester County has over 60% of its workforce commuting outside the County to their places of employment. Dorchester County has always been an advocate for the "park and ride" proposals to promote car-pooling.

Dorchester County has a workforce of 44,282 people over the age of 16. Of those employed, 43,131 people commute to work. The distribution of commute choices are identified on Table 1.

Table 1					
Distribution of Commute Choic	Distribution of Commute Choices of Employed over the age of 16				
Commute Choice	Number Employed	Percentage			
Drove alone	36,311	82%			
Carpooled	5,624	12.7%			
Worked at home	709	1.6%			
Other	664	1.5%			
Walked	753	1.7%			
Public Transportation	221	.5%			

Other includes motorcycles, bicycles and other means of transportation not identified.

Dorchester County is a typical "bedroom community", where the majority of its citizens commute to adjacent counties to go to work. There may be fewer industries within the County, however, Property Tax becomes the major source of tax revenue. Dorchester County will continue to pursue an aggressive Economic Development program to generate more jobs for its residents, and yet remain selective in the kind of jobs and preserve our rural small town character and way of life. Dorchester County will continue to support

the CHATS program to reduce traffic congestion, providing more Park and Ride programs and to encourage our citizens to share their rides with others.

Industry

Enclosure (2) contains a list of the industry within Dorchester County and the most recent annual emission figures. Dorchester County Economic has several programs to promote economic development within the county (expansion) and to show the County's appreciation for their presence. The County stakeholders have not yet asked for their participation to reduce emissions.

Public Involvement

Dorchester County has invited various groups and representatives from various organizations and towns to participate in the preparation of a plan by a stakeholders group. Presently we have a County representative, a representative from SC DOT and a representative from Harleyville, Ridgeville and St. George. We have found a more receptive group at the Council of Governments (Regional BCD COG) with representatives from Berkeley and Charleston Counties. We intend to involve local governmental fleet vehicle managers and local school systems in developing an education program starting with the school aged children. The local newspapers will be asked to participate with the publication of various articles about Ozone over a long period of time to educate the public. We find we get better cooperation if we do the research and write proposed articles.

Steering Committee

Steering Committees and Stakeholders groups are one in the same.

Meetings held to date regarding the EAP:

- ?? The initial Dorchester County Stakeholders meeting met April 14, 2003, at the Public Works office. A representative from DHEC (Ms. Melinda Mathias), a representative from the Dorchester County, SC DOT and a Town representative from Ridgeville, St. George, Harleyville and Reevesville were present. A representative from the Town of Summerville nor was the representative from Biedler Forest present. The Media did not attend.
- ?? On July 24, 2003, August 14, 2003, September 18, 2003 and February 26, 2004, the Berkeley, Charleston, Dorchester Council of Governments (BCD COG) hosted meetings in which all counties (Berkeley, Charleston and Dorchester) were present. Various guests were invited and were active in representing DHEC Central Office (Ms. Melinda Mathias) EQC District Office,

the Charleston Area Transportation Authority (CARTA), the Rural Transportation Mass transit Authority (RTMA), Coastal Carolina Conservation League, the Sierra Club, the Medical University of SC (MUSC), Clemson Extension Services and the Fleet Transportation Supervisors from each County were invited to discuss their strategies to reduce Ozone emissions.

?? Two Early Action Plan meetings were conducted at DHEC, Columbia on February 26, 2003, and June 25, 2003. The DHEC representatives were very active on the internet and the telephone to keep all parties abreast of activities.

Emission Reduction Strategies

Through the development and implementation of this plan, Dorchester County will implement local emission reduction strategies that are economically feasible and that make sense for the county. In doing so, the efforts of Dorchester County should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a Best Available Control Technology (BACT) regulation; modifications to the "open burning" regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Local measures must be implemented no later than April 2005. However, Dorchester County will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. It is not possible to determine emissions reductions for each of the following strategies. However, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Challenges

Dorchester County will be faced with challenges regarding the implementation of emissions reduction strategies. Education and behavior modification will be one of the major challenges facing the Tri County area. Dorchester County through the development of the Dorchester County Ozone Steering Committee and the efforts of the Ozone Action Coordinator, hopes to educate local citizens on the air quality standards and the implications of not meeting the standards. Once education efforts begin, the county anticipates

behavior modifications will be made by local citizens. It will be through the joint efforts of local government, private citizens, business, and industry that Dorchester County will be able to assist the state in meeting and maintaining the 8-hour ozone standard.

Maintenance

Local measures must be implemented no later than April 2005. However, as previously mentioned, Dorchester County will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, Dorchester County will review and evaluate the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Once the standard is reached in December 2007, and non-attainment designations are replaced with attainment designations, Dorchester County will continue to evaluate the effectiveness of the strategies adopted and adjust emission reduction strategies where needed. Maintenance of the standard will depend upon the success of emission reduction strategies implemented by Dorchester County and surrounding counties as well as federal and state initiatives.

Early Action Compact Milestone - March 2004 List of Emission Reduction Strategies under Consideration Dorchester County

According to the latest 8-hour ozone monitoring data, Dorchester County should remain attainment for the 8-hour ozone standard. However, in an effort to assist other areas in South Carolina and in the interest of public health and the environment, in December 2002, Dorchester County agreed to participate in the 8-hour ozone early action process. Therefore, based on stakeholder consultation and taking into consideration resource and political constraints, the following emission reduction strategies remain under consideration. Dorchester County will continue to evaluate the air quality within the county and may implement one or more of the following measures under consideration.

Measure under consideration	Detailed description of measure	Current assessment of emission reductions	Proposed date for implementation	Geographic area and/or local government
1. Stakeholders	Continue with Local and Regional Stakeholders		These programs	Local and
Groups	Groups to remain current with citizen concerns and who may be experimenting with new ozone technology developments.	N/A	have been in existence since April 2003.	Tri-county area.
2. CHATS support.	The Charleston Area Transportation Study Group continues to establish SCDOT priorities for the Tri-county area. Dorchester County will continue to support those programs to reduce ozone. e.g. Mass Transit initiatives, "Park & Ride" programs, more "walk and bike trails" and initiatives that promotes car pooling.	N/A	CHATS has been active for over a decade. It is not likely to change in the immediate future.	Tri-county area.
3. Government sets the example.	Study to promote more telecommute positions, provide incentives for car pooling when assigning parking spaces. Stagger work hours for employees to avoid rush hour traffic. Continue with flexwork schedules and 4 day work week. Establish policies to encourage pooling of lunch orders from same vender. Study County owned vehicle schedule to shuttle personnel between upper and lower county. Promote high-bred "alternative fuel" vehicles i.e. electric, bio-diesel, LP gas, ethanol etc. for vehicle fleet operations.	N/A	This measure is an attempt to modify regulations and behavior over a period of time. Some of these practices have already been adopted.	Local Community.

4. Solicit the schools to help in the education process.	There are short courses available to be introduced into the syllabus to discuss health hazards and other dangers of ground level ozone. Request Journalism students and/or English students to write articles about the dangers of ozone to be published in the local newspapers. Students encouraged to produce Educational video for television discussing the ozone issues.	N/A	This program will be initiated when EPA designates Dorchester County as borderline attainment.	Local Community.
5. Schools to review existing policies.	Student Transportation policy to be reviewed: more sidewalks and fewer parking spaces. Driving privileges for those students making grades. Assigned parking for only those students with exceptional need to drive. Minimal fee should be charged for cost of security cameras and police personnel in the parking areas. All others must use bus. Construction of schools will include sidewalks and bike trails on all major arteries within a mile radius of the school. Establish rules for vehicle idle times for those waiting for students to be released. (Parents vehicles and busses.)	N/A	This program will be initiated when EPA designates Dorchester County as borderline attainment.	Local Community.
6. Educate the Public as to "What is OZONE?"	TV News and Meteorologists will broadcast existing and forecast Ozone conditions. In addition, they will provide recommendations for their audience similar to their current hurricane readiness announcements.	N/A	This program is scheduled to start in May 2004.	Local Community.
7. Educate the Public as to "What is OZONE?"	An OZONE tent will become a part of the festivals and fairs in the local area to pass out brochures and tracts about ozone. Various contests and prizes can be awarded to stimulate interest.	N/A	This program will be initiated when EPA designates Dorchester County as borderline attainment.	Local Community.

8. Educate the	A traveling lecturer will visit hospitals, Nursing		This program will	Local Community.
Public as to	Homes, Senior Citizen Centers to educate those	N/A	be initiated when	
"What is	who are most at-risk. Recommend minimum		EPA designates	
OZONE?"	outdoor activity during periods of high ozone.		Dorchester	
			County as	
			borderline	
			attainment.	
9. Educate the	Publish brochure of house-hold tips to reduce		This program will	Local Community
Public as to	ozone. Schedule mowing and fueling vehicles in	N/A	be initiated when	
"What is	early morning or late afternoon to avoid the high		EPA designates	
OZONE?"	ozone period. Select electric operated equipment		Dorchester	
	and avoid gas operated landscape equipment.		County as	
			borderline	
			attainment.	
10. Planning	Tree and Landscape Ordinances should encourage		Some of these	Local Community.
for future green	use of more deciduous shade trees and fewer pine	N/A	programs are	·
spaces.	trees. SC DOT should be required to provide		currently in	
1	landscaped mediums. Industrial developers should		existence. We	
	be required to provide a landscape plan for the		can do better.	
	entire site. Commercial builders should landscape			
	parking lots and entrances. Residential builders			
	should avoid strip clearing and have a minimum			
	landscape requirement for treed streets, landscaped			
	entrances and a minimum landscape requirement			
	for each lot.			
11. Planning	Communities are planned with a		Comprehensive	Local Community
for a future with	grocery/drug/hardware stores within walking	N/A	Plan for	
fewer vehicles.	distance from homes. Promote mixed zoning, i.e.		Government	
	stores with residential spaces on the upper floors.		agencies already	
	Encourage more sidewalks and bike trails. Cluster		includes these	
	development, Smart Growth, PUD's, mass transit,		ideas. Promote	
	energy efficient building materials, fuel efficient		adoption of these	
	vehicles, should be encouraged.		ideas in future	
	, chiefes, should be elicouluged.		ordinances.	
	<u>l</u>		ordinances.	

Catawba Area

Local Early Action Plans

March 2004



Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as nonattainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Nonattainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, on-road and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Chester County- Early Action Compact Milestone – March 2004

List of Emission Reduction Strategies Under Consideration

According to the latest 8-hour ozone monitoring data, Chester County should remain attainment for the 8-hour ozone standard. However, in an effort to assist other areas in South Carolina and in the interest of public health and the environment, in December 2002, Chester County agreed to participate in the 8-hour ozone early action process. Therefore, based on stakeholder consultation and taking into consideration resource and political constraints, the following emission reduction strategies remain under consideration. Chester County will continue to evaluate the air quality within the county and may implement one or more of the following measures under consideration.

			Proposed	Geographic area
Measure under	Detailed description of measure	Current assessment of	date for	and/or local
consideration	r	emission reductions	implementation	government
Establish	CAIR (Chester Air) group to be established which will allow		November 2003	County-wide
Community	citizens, local business, and local industry to collaborate in	N/A	140 veinber 2003	County wide
Stakeholder Group	efforts to clean and protect the air. The group will focus on	11/11		
Stakenorder Group	the prevention of ground level ozone formation.			
Establish outreach	CAIR will establish a web site to provide information about		November 2003	County-wide
website	how to join the clean air group, and information on a few	N/A		
	things citizens can do to help prevent ground-level ozone.			
Eat- Lunch- In	The County will improve a pic -nic area to encourage county		May 2005	County government
Area	employees to Eat-Lunch-In	N/A		, , ,
Take A Break From	Chester County government will encourage the TABFTE		May 2005	County government
The Exhaust	program to encourage its employees to carpool, walk to N/			
	work, and eat-lunch-in during ozone season			
Reduce Electricity	The Chester County Government will sponsor a program to	N/A	August 2003	County Government
Use	encourage its employees to reduce their electricity use.			
Revised Purchasing	The Chester County Government will update its purchasing		May 2004	County Government
Policy	policy to encourage buying in bulk, buying recycled and	N/A		
	recyclable products, and buying energy efficient products			
	including fleet vehicles.			
Ozone Forecast	The ozone forecast during ozone season will be announced		April 2004	County-wide
	over the local radio station along with a tip of the day to	N/A		
	reduce the ozone forming pollution.			
Nature Based	The County will encourage a nature based tourism approach	N/A	May 2004	County-Wide
Tourism	to encourage the preservation green spaces.			
Ozone Awareness	The County sponsored an Ozone Awareness Booth in	N/A	October 18 th 2003	County-Wide
Booth	cooperation with SC DHEC at the hilltop festival.			
	Information, two environmentally friendly gas cans, pencils,			
	coloring books, t-shirts, and flowering plants were			
	distributed in return for citizen membership registration in			
	CAIR group. 8 members were gained at this event.			
Clean Air	Chester County resolved to be in partnership with SEQL	N/A	October 2003	County-wide
Resolution	(Sustainable Environments for the Quality of Life) by			
	signing a Clean Air Resolution			
Energy Audit	Determined areas of waste in terms of energy use	N/A	August 2003	County Government

Tree Planting	Chester County will plant an additional 500 hardwood trees on county land to help secure air quality	N/A	May 2005	County Wide
Tree Saving	Chester County will make an effort to save trees in the county by providing more protection for all trees that could be 100 years old or older.	N/A	May 2005	County Wide
Pilot Transportation Program	Chester Park School will conduct a pilot transportation program and the school district will seek to implement such a program throughout all of its schools encouraging more fuel efficient means of travel (carpooling, biking/walking, and bus riding)	N/A	May 2004	County Wide
Revise Purchasing Policy	Prioritize Buying in Bulk and Buying Products with Less Packaging	N/A	May 2005	Chester School District
Reduce Waste and Energy Use	Seek to incorporate using re-usable cafeteria dining materials where possible in schools that now use paper, plastic, or Styrofoam products.	N/A	May 2005	Chester School District

Background

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Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Attachment 1 Lancaster County Early Action Compact List of Emission Reduction Strategies

Based on stakeholder consultation and taking into consideration resource and political constraints, the following control measures under consideration can be reasonably implemented. It is anticipated these measures under consideration will assist Lancaster County in achieving and/or maintaining the 8-hour ozone standard by 2007.

Measure under Consideration	Description of measure (A more detailed description will be included in the Early Action Plan.)	Estimate of emission reductions (if available)	Proposed date for implementation	Geographic area and/or local government
Early Action Plan Organization Meeting	County officials met with department heads, citizens, education, and corporate officials to begin organizing an Early Action Plan. Attended by 25 individuals.	Not Available	May, 2003	County wide
Ozone Action Coordinator	County staff person responsible for ozone education/outreach and dissemination of ozone forecast.	Not available	July, 2003	County wide
Park and Ride Facilities	County staff will evaluate the number of workers commuting to other counties within South Carolina and work with local businesses willing to allow park and ride opportunities at their place of business. The county has set a goal of 20 percent of the workforce carpooling by the year 2007.		July, 2003 (On-going effort)	County wide
Web Site	Lancaster County is in the process of developing a web site devoted to educating the public about ozone emissions and ways the public can assist in lowering airborne pollutants	Not Available	July, 2003	County Wide
Public Service Announcements, Learn TV Cable, Education TV	Lancaster County will produce public service announcements that will be shown on local cable television outlets and the County's education TV channel promoting ways the public can improve air quality.	Not Available	July, 2003	County Wide.
Community Meetings	Lancaster County officials will be meeting with the Chamber of Commerce, Rotary, and other community groups in order to explain the Early Action Plan and steps that can be taken by individuals and companies to improve air quality. Plan also includes creating stakeholder agreements with individuals, companies, and civic groups in order to implement air quality measures that improve the community.	Not Available	June -July 2003	County Wide
Alternate Work Schedule	Policy will be developed for implementing AWS for employees of area business and industry	Not Available	April 2004	County Government and Local Companies

Education	Educate the public through web sites, education TV,	Not Available	2003-2007	County Government,
	education TV slides, PSAs, school group meetings, web sites, radio and print ads, etc. about the EAP and ways individuals		On-going	School System, Learn TV,
	and businesses can improve air quality (i.e. vehicles, home			Education/Government
	appliances, boats, heavy machinery, alternative fuels, agriculture, etc.)			TV
Recycling	Continue to implement and improve education about	Not Available	2003 Ongoing	County Government
Programs Can Floata Using	County's recycling programs Begin planning to implement alternative fuel sources for	Not Available	2002 On sains	County Coulomm and
Car Fleets Using Alternative Energy	County fleets and encouraging alternative fuel fleets at local	Noi Available	2003 Ongoing	County Government, Local Industry
Sources	industry.			Local mansiry
Heavy Machinery	Implement educational efforts and possibly provide tax	Not Available	2003 Ongoing	County Government,
	breaks to companies that utilize emission control systems on			Local Industry
Traffic	heavy machinery Continue to implement synchronization of all traffic lights in	Not Available	2003 Ongoing	County Government,
Synchronization	municipal areas to decrease stop and go traffic.	Noi Available	2003 Ongoing	Municipal
Synchronization	municipal areas to accrease stop and go traffic.			Governments, State
				DOT
School Buses	Improve routes to decrease stop-and-go. Implement steps to	Not Available	2003 Ongoing	County Government,
	purchase alternative fuel buses for fleets			State Department of Education
Planning	Continue proper planning of communities to decrease urban	Not Available	2003 Ongoing	County Government
	sprawl and limit the amount of driving in communities.			
	Density restrictions. Implementation of walking/bike trails in residential areas that connect to shopping and retail			
	centers			
Student Driving	Restrict lower grades in high school from operating and	Not Available	August, 2003	County Government
	driving cars to school			
	Implement legislation to control outdoor burning and educate the public about hazards	Not Available	August, 2003	County Government

Emission Reduction Strategy	Description and analysis of how strategy will be implemented	Estimate of emission reductions (if available)	Date for implementation	Resource Concerns/ Constraints	Geographic area and/or local government
Air Quality Contact	One person will be identified as the Air Quality Contact. At a minimum, this contact will be responsible for ozone education/outreach and dissemination of ozone forecast.	Not available	March 2003	County wide	Air Quality Contact
Support state- wide efforts	Allendale County will support the efforts of SC DHEC regarding statewide emission reduction strategies.	Not available		County wide	Support state-wide efforts
Measures taken to present	Allendale County Emergency Management Agency distributed to all county employees, information about Air Quality basics and protective measures.		Completed on May 20, 2003.	Allendale County Government	Measures taken to present

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Attachment 1 Union County Early Action Compact List of Emission Reduction Strategies

Emission Reduction Strategy	Description and analysis of how strategy will be implemented	Estimate of emission reductions (if available)	Date for implementation	Resource Concerns/ Constraints	Geographic area and/or local government
Air Quality	One person will be identified as the	Not available		County wide	
Contact	Air Quality Contact. At a minimum, this contact will be responsible for ozone education/outreach and dissemination of ozone forecast.				
Support state- wide efforts	Union County will support the efforts of SC DHEC regarding statewide emission reduction strategies.	Not available		County wide	

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) fo Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effect of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating area as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non attainment New Source Review sets out the level of emissions reductions required for new and modified industria facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

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Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas is South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitroger (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, on-road and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natura sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These program include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may no be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozon standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectivenes of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Early Action Compact Milestone – March 2004 List of Emission Reduction Strategies Under Consideration

York County

According to the latest 8-hour ozone monitoring data, York County should remain attainment for the 8-hour ozone standard. However, in an effort to assist other areas in South Carolina and in the interest of public health and the environment, in December 2002, York County agreed to participate in the 8-hour ozone early action process. Therefore, based on stakeholder consultation and taking into consideration resource and political constraints, the following emission reduction strategies remain under consideration. York County will continue to evaluate the air quality within the county and may implement one or more of the following measures under consideration.

			Proposed	Geographic area
Measure under	Detailed description of measure	Current assessment of	date for	and/or local
consideration	_	emission reductions	implementation	government
Local Option Sales Tax Road Improvements	\$174 million sales tax referendum approved by York County voters in November 2003. Projects emphasize intersection improvements, paved shoulders, sidewalks, and improving traffic choke points.	Not available	2004-2012	Countywide
Peak hour bus service to Charlotte	Current Rock Hill Express bus service to Charlotte CBD from four Park-and-Ride facilities in York County.	Not available	Current	I-77 corridor
Update Development Regulations	York County staff is presently updating zoning and subdivision regulations to require sidewalks and lower thresholds for requiring deceleration and left-hand turn lanes into developments.	Not available	2004-2006	Countywide (requires County Council approval)
Ban open burning	York County currently prohibits all open burning during high ozone days.	Not available	Current	Countywide
MPO activities	Adoption of Long Range Transportation Plan with 30 percent of revenue targeted for congestion management projects, Major Investment Study ongoing to study feasibility of extending transit from Charlotte into York County, and ongoing Congestion Management Study to manage transportation network in urban areas.	Not available	2003-2025	MPO Study Area (Eastern portion of York County)
SEQL Resolution	York County will work with local Council of Government (COG) to identify practical measures to	Not available	2004	Countywide

address air quality in acco	dance with the Sustainable		
Environment for Quali	Life (SEQL) project		
administered by the Catawa			

Central Midlands Area

Local Early Action Plans

March 2004



Fairfield County Early Action Plan for the 8-Hour Ozone Standard

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

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Ozone Health Effects

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Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, nobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

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The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Fairfield County Early Action Compact- March 2004 List of Emission Reduction Strategies

Emission Reduction Strategy	Description and analysis of how strategy will be implemented	Estimate of emission reductions (if available)	Date for implementation	Geographic area and/or local government
Air Quality Contact	Ronald Stowers, Fairfield County Director of Planning, Building and Zoning Department is designated as the Air Quality Contact. At a minimum, this contact will be responsible for ozone education/outreach and dissemination of ozone forecast.	Not available	March 2003	County wide
Support state- wide efforts	Fairfield County will support the efforts of SC DHEC regarding statewide emission reduction strategies.	Not available		County wide
Amendment of the Fairfield County Zoning Ordinance	Amend the Fairfield County Zoning Ordinance, Article IV, Conditional Uses, Section 4-9, Manufacturing Uses to add prescriptive requirements for reducing/or maintaining ozone levels.	Not available	November 2003	Unincorporated area of Fairfield County
Amendment of the Fairfield County Zoning Ordinance	Evaluate the Fairfield County Zoning Ordinance, Article VI, Screening, Landscaping and Common Space Regulations determine adequancy of tree planting/landscaping standards to help promote stragegic tree planting.	Not available	November 2003	Unincorporated area of Fairfield County
Amendment of the Fairfield County Zoning Ordinance	Amend the Fairfield County Zoning Ordinance, Article 3 to promote Planned Development Districts that would encourage land use planning that will help improve air quality.	Not available	November 2003	Unincorporated area of Fairfield County
Awareness	Work with and provide information to the Incorporated areas of Fairfield County on Land Use Planning measures that will help improve air quality.	Not available	June 2003	Incorporated area of Fairfield County

Awareness	Promote ozone education/awareness	Not available	Ongoing	Unincorporated and Incorporated areas of Fairfield County
	by distribution of information,			
	including Ozone Alerts to County			
	employees as well as to Town of			
	Ridgeway and Town of Winnsboro.			
Operation and	Work with County Public Works to	Not available	Ongoing	Fairfield County
Maintenance	develop strategies to reduce activities			
Activities	that would effect ozone levels during			
	Ozone Action Days			



MEMORANDUM

DATE: October 6, 2004

TO: All Lexington County Department Heads/ Elected Officials

CC: Mr. Art Brooks, Lexington County Administrator

Mr. John Fechtel, Director of Public Works

FROM: Ms. Sheri Armstrong, Environmental Coordinator

SUBJECT: Air Quality Awareness and Improvement Policy

Lexington County recognizes protecting the air quality for the benefit of future generations is in the public's interest. In December 2002, Lexington County, the South Carolina Department of Health and Environmental Control (DHEC), and the Environmental Protection Agency (EPA), Region 4 office, entered into an 8-hour Ozone Early Action Compact (EAC). The EAC offers areas of opportunity to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than federally mandated. This opportunity requires an expeditious time line for achieving emissions reductions sooner than expected under the 8-hour ozone implementation rulemaking. However, if Lexington County fails to meet milestones established in the EAC or fails to meet the 8-hour ozone standard, participation will be forfeited and the area will be designated according to requirements within EPA's 8-hour ozone implementation rule.

The **attached** policy was presented before County Council on August 24, 2004 and adopted as written. Several activities within the attached policy are being investigated at this time to determine their viability for Lexington County.

The purpose of this document is to begin the implementation of the approved policy, and establish certain principles that will guide the recurring activities of County government. Therefore, effective immediately Lexington County shall implement the follow items:

- 1. Ensure that all county employees are notified of upcoming **Ozone Action Days (OAD).**
- 2. Implement car-pooling opportunities, when feasible.
 - ?? Ride share to work
 - ?? Ride to lunch and/or meetings with fellow employees
- 3. Ensure that all County vehicles/equipment are operating according to the manufacturer's specifications.
- 4. Restrict vehicle idling to no more than ten (10) minutes. Exceptions include emergency vehicles, traffic/weather conditions, and vehicles being repaired, maintained, or inspected.
- 5. Restrict mowing and use of gas powered lawn equipment on County property on OAD.
- 6. Reduce mowing by landscaping additional areas of county property.
- 7. Restrict all outdoor burning on OAD.
- 8. Practice energy conservation in all County facilities.
 - ?? Turn off computers and lights in the office at the end of the day
 - ?? Turn off all office lights when not in use
- 9. Include environmental considerations in purchasing decisions for goods and services. An example of such would be to purchase Energy Star equipment.
- 10. Purchase the lowest-emission vehicles practical to meet County needs. This may include the purchase of Tier II compliant vehicles, alternative fueled vehicles or hybrids.

For additional information or any questions please contact Ms. Sheri Armstrong at email sarmstrong@lex-co.com, or phone (803) 808-8631.

OZONE POLICY - AIR QUALITY IMPROVEMENTS FOR LEXINGTON COUNTY ADOPTED AUGUST 24, 2004

Employee Education, Notification and Participation

- ?? Ozone Action Coordinator(s)-John Fechtel/Sheri Armstrong
- ?? Promote employee education/awareness of ozone issues and helpful individual actions (e.g. internal newsletter, mass email, brown bag lunch presentations, flyers, etc.)
- ?? Implement employee alerts for Ozone Action Days (e.g. mass email, network boot up message, bulletin board, etc.)
- ?? Investigate incentives for participating employees (e.g. reserved parking for ride sharing employees, etc.)

Operations and Maintenance Activities

- ?? Delay/reschedule mowing and motorized construction activities to the maximum extent practical during Ozone Action Days
- ?? Investigate the purchase of electric equipment
- ?? Delay/reschedule maintenance and landscaping activities which use small engines to the maximum extent practical during Ozone Action Days
- ?? Examine the practicability of refueling vehicles in the evening during Ozone Season
- ?? To the maximum extent practical limit the "topping off" of tanks while refueling
- ?? Promote carpooling to attend lunches and meetings
- ?? To the maximum extent practical implement building energy conservation measures
 - Require employees to turn off lights and computers daily
 - Me Investigate the possibility to purchase Energy Star compliant equipment
 - Audit existing buildings for changes to make them more energy efficient to the maximum extent practical Explore the use of Green Power where available
- ?? Restrict to maximum extent practical indoor and outdoor paint jobs during Ozone Action Days
- ?? Study the feasibility to change work schedules to mitigate commute traffic jams
- ?? Consider the purchase of alternative fuels/hybrids vehicles and refuel with alternative fuels wherever possible

Commuter Actions

- ?? Encourage commute alternatives for employees (e.g. rideshare, carpool, etc.)
- ?? Advocate public transportation
- ?? Promote walking/biking as alternatives and emphasize "Health/Exercise"
- ?? Study the feasibility for Alternative Work Schedules (AWS)
- ?? Suggest an alternative commute program

Encourage employees not to travel by auto at lunchtime

- ?? Encourage brown bag lunches or ordering in
- ?? Suggest carpooling to local eating facilities

Parking Management

?? Implement preferences for rideshare vehicles

For additional information visit www.scdhec.net/baq/eap.html, or Contact Sheri Armstrong at sarmstrong@lex-co.com, (803) 808-8631 phone

ELECTED OFFICIALS

Art Guerry (359-8181) William O. Rowell (359-8217)

Auditor Treasurer
212 S Lake Drive 212 S Lake Drive
Lexington, SC 29072 Lexington, SC 29072

Thomas H. Comerford (359-8212) Daniel R. Eckstrom (359-8324)

Clerk of Court Probate Judge

Lexington County Courthouse Lexington County Courthouse

Lexington, SC 29072 Lexington, SC 29072

Donald V. Myers (359-8285) James R. Metts (951-2400)

Solicitor Sheriff
Lexington County Courthouse PO Box 639

Lexington, SC 29072 Lexington, SC 29071

Harry O. Harman (359-8439)

Coroner

Lexington County Courthouse

Debra Gunter (359-8168)

Register of Deeds

212 S Lake Drive

Lexington, SC 29072 Lexington, SC 29072

APPOINTED OFFICIALS

William Art Brooks (359-8100) Dorothy K. Black (359-8103)

County Administrator Clerk to Council
212 S Lake Drive 212 S Lake Drive
Lexington, SC 29072 Lexington, SC 29072

DEPARTMENTS/DIVISIONS

Larry M. Porth (359-8105) Charles M. Compton (359-8121)
Director of Finance/Assist.Admin. Director of Planning & GIS

212 S Lake Drive 212 S Lake Drive Lexington SC 29072 Lexington SC 29072

Katherine Doucett(359-8225)

John J. Fechtel (359-8201)

Personnel Director/Assist Admin. Director of Public Works/Assist Admin.

212 S Lake Drive440 Ball Park RoadLexington, SC 29072Lexington, SC 29072

Russell Rawl (359-8141) Rick Dolan (359-8190)

Fire Service Coordinator Director of Assessment/Equalization

212 S Lake Drive Lexington, SC 29072 212 S Lake Drive Lexington, SC 29072

Tom Gross (359-8141) Jim Schafer (359-8161)

EMS Coordinator Director of Information Services

212 S Lake Drive
Lexington, SC 29072

212 S Lake Drive
Lexington, SC 29072

Ellis Gammons (359-8360) Ray Disher (839-8349)

Manager, Fleet Services Division Mgr. Building Services Division

415 Ball Park Road Lexington SC 29072 415 Ball Park Road Lexington, SC 29072

Neil Ellis (359-8141) Sheila Fulmer (359-8107)

Emergency Preparedness/Communications Procurement Mgr/Div. of Finance

212 S Lake Drive 212 S Lake Drive Lexington, SC 29072 Lexington, SC 29072

Joe Mergo (755-3325) Director, Solid Waste Mgt. 498 Landfill Lane Lexington, SC 29071 Tammy Coghill (359-8389)
Director, Community & Economic Dev
212 S. Lake Drive
Lexington, SC 29073

Chief Tim James (951-2403) Director, Public Safety/Homeland Security 521 Gibson Road Lexington, SC 29072

Gary Baker Veteran Affairs

Dean Crepes Voter Registration Legislative Delegation

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Lexington County is a potential area to be designated non-attainment for the 8-hour ozone standard, as are other areas in South Carolina. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

List of Emission Reduction Strategies Under Consideration

County of Lexington, South Carolina

Based on stakeholder consultation and taking into consideration resource and political constraints, the following control measures have been selected. Study of control measures will be ongoing until the County's Final EAP is submitted March 31, 2004. These measures under consideration will assist the County of Lexington, South Carolina, in achieving and/or maintaining the 8-hour ozone standard by 2007.

Measure under Consideration	Description of Measure (A more detailed description will be included in the Early Action Plan.)	Estimate of Emission Reductions (if available)	Proposed Date for Implementation	Geographic Area and/or Local Government
Ozone Action Coordinator	County Staff Person	N/A	July 2003	County Government
Ozone Action Contacts	Establish Industry/Local government contact persons	N/A	August 2003	Various companies/Municipalities
Park & Ride facilities	Staff will be contacting churches, shopping centers, etc. with large parking lots to discuss park & ride program	N/A	December 2003	Various companies, churches, government facilities
Alternate work schedule	Discuss with industry, companies, municipalities, county departments	N/A	December 2003	Countywide
Bio-diesel/Alternate fuels	Companies, municipalities, county investigate feasibility of these methods	N/A	March 2004	Countywide
Idle Reduction	Establish County policies to reduce or stop idling time	N/A	July 2003	Countywide
Landfill methane reduction	Analyze methane production and reduction, recycle efforts	N/A	March 2004	Countywide

Lexington County Final.doc 4

Newberry County Early Action Plan for the 8-Hour Ozone Standard

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as nonattainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Nonattainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, on-road and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Early Action Compact Milestone – March 2004 List of Emission Reduction Strategies Under Consideration

Newberry County

According to the latest 8-hour ozone monitoring data, Newberry County should remain attainment for the 8-hour ozone standard. However, in an effort to assist other areas in South Carolina and in the interest of public health and the environment, in December 2002, Newberry County agreed to participate in the 8-hour ozone early action process. Therefore, based on stakeholder consultation and taking into consideration resource and political constraints, the following emission reduction strategies remain under consideration. Newberry County will continue to evaluate the air quality within the county and may implement one or more of the following measures under consideration.

Measure under	Description of measure	Current assessment of	Proposed	Geographic area
consideration	(A more detailed description will be included in the Early Action Plan.)	emission reductions	Date for	and/or local
			implementation	government
Air Quality Contact	One person was identified as the Air Quality Contact. (Tom		March 2003	County wide
	Barber 3491 Main Street, Newberry, SC 29108	N/A		
	(803)321-2135	22/1		~
Support state-wide efforts	Newberry County will support the efforts of SC DHEC regarding state0wide emission reduction strategies	N/A	03/2004	County wide
Assigned to Hazard	Hazard mitigation team members met on Jan 13, 2004 to	N7/A	Jan 2005	County wide
Mitigation Team	discuss effect and mitigation methods. It was decided that since we have no measuring tool that shows the ozone	N/A		
	amount that we would investigate obtaining one. Sign in			
	Documents Attached.			
Alternative Fules	Encourage Public Works to use Bio-Diesel Fuels	N/A	Jan 2005	County wide
Park and Ride	Implemented Park and Ride from Newberry to Columbia.	N/A	Implemented October	County wide
	DOT and Central Midlands. CMRTA USED BUSES TO		2003	
	TRANSPORT.			
Awareness	WIS TV covered the Park and Ride story and brought an		October 2003	State wide
	increase in the level of awareness	N/A		
Public Information	Web site entitled "Ozone, is it a good or bad thing?" was		February 2004	World Wide Web
	created and placed on the County web page:	N/A		
	<u>www.newberrycounty.net</u>			



SUBJECT: Air Quality Awareness and Improvement Policies

NUMBER: AD 04-001

ISSUE DATE: October 8, 2004

I. PURPOSE AND INTENT

The purpose of this Administrative Directive is to establish policies by which air quality and awareness will be improved via recurring activities of County government.

II. BACKGROUND

Richland County recognizes protecting the air quality for the benefit of future generations is in the public's interest. In December 2002, Richland County, the South Carolina Department of Health and Environmental Control (DHEC), and the Environmental Protection Agency, Region 4 office (EPA) entered into an 8-hour Ozone Early Action Compact (EAC).

The EAC offers areas the opportunity to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than federally mandated. This opportunity requires an expeditious time line for achieving emissions reductions sooner than expected under the 8-hour ozone implementation rulemaking.

However, if Richland County fails to meet milestones established in the EAC or fails to meet the 8-hour ozone standard, participation will be forfeited and the area will be designated according to requirements within EPA's 8-hour ozone implementation rule. The purpose of this policy is to establish certain principles that will guide the recurring activities of County government.

III. POLICY

- 1. Richland County shall ensure that all employees continue to be notified of upcoming Ozone Action Days. Notification occurs via email.
- 2. Richland County departments are allowed to promote flex-scheduling where feasible. Certain employees in emergency services departments are unable to practice flex-scheduling, but other practical departments are allowed to promote this option where manageable.
- 3. Richland County has several Tier II compliant vehicles and pieces of equipment currently in its fleet, and will increase this number. Richland County has budgeted for 13 alternative fuel

- vehicles (AFV's) in FY 2004-2005, with an increase in the purchasing of AFV's thereafter. It shall be the goal of the County that by 2010, 30% of the County fleet will be the lowest-emission vehicles practical.
- 4. All County vehicles and equipment are operating according to the manufacturer's specifications, and shall continue to do so. Richland County currently uses recyclable oil filters with an extended service interval capacity, which allows the County to perform oil changes at 4,000 or 5,000 miles instead of 3,000. Richland County seeks to incorporate synthetic oils and fluids in its maintenance program, which offer superior protection and longer service intervals.
- 5. Richland County drivers are required to eliminate vehicle idling. Exceptions include emergency vehicles, traffic/weather conditions, and vehicles being repaired, maintained, or inspected. These exceptions should occur only as reasonably required for specific operations.
- 6. Richland County will restrict mowing and use of gas powered lawn equipment on County property on Ozone Action Days (orange and above) where manageable.
- 7. The County will seek to landscape facilities in ways that reduce equipment use, thereby promoting lower maintenance, resulting in fewer emissions.
- 8. During a pollution alert, such as an Ozone Action day, all outdoor burning shall be unlawful. (See Richland County Ordinance Chapter 10, Section 10-1.)
- Richland County will continue to practice energy conservation in all County facilities.
 Conservation measures include turning off computers and lights on nights, weekends, and
 holidays. Strong emphasis and preference will be placed on purchasing Energy Star compliant
 products.
- 10. Recycling efforts shall remain ongoing at County facilities.

IV. EFFECTIVE DATE

County Administrator

The policies and procedures outlined in this Administrative Directive governing the recurring activities of County government are effective immediately.

Early Action Compact Milestone – March 2004 List of Emission Reduction Strategies Under Consideration

Richland County

Based on stakeholder consultation and taking into consideration resource and political constraints, the following control measures under consideration can be reasonably implemented. It is anticipated these measures under consideration will assist Richland County in achieving and/or maintaining the 8-hour ozone standard by 2007 and beyond.

Measure under consideration	Detailed description of measure	Current assessment of emission reductions	Proposed date for implementation	Geographic area and/or local government
Air Quality Contact	County staff person responsible for air quality education/outreach and dissemination of ozone forecast. Roxanne Matthews is county contact.	Not applicable	March 2003	County wide
Gas Can Exchange Project	Richland County is actively participating in a gas can exchange project to be held June 5, 2004. During this event, the public will be educated on the amount of emissions resulting from leaking gas cans, and will also receive literature regarding recycling. Older traditional gas cans release about 8 pounds of VOCs through spills and evaporative each year. Trading in an older, leaky gas can for a new spill-proof container can result in a 75% reduction per can in VOCs.	Trading in an older, leaky gas can fro a new spill-proof container can result in a 75% reduction per can in VOCs.	June 5, 2004 (one-day event; will hopefully become annual event.)	Lexington/Ric hland Counties
Support state-wide emission reduction	County will offer support to DHEC for statewide emission reduction efforts such as	Not applicable	Upon implementation	County wide

efforts	open burning, and BACT	by state	
Dogga to lond one	Distant Courts is in the group of	77	Country and 1
Promote land-use	Richland County is in the process of	The Land	County wide
planning	rewriting its outdated Land Development	Development	
intentionally	Code. This ongoing process has included	Code's proposed	
altering the urban	input from citizens and staff, and the	implementation	
environment to	information contained within this updated	date is January 1,	
improve air quality.	code incorporates these ideas within the	2005	
Examples are transit	document. The code contains many		
oriented	positive, proactive land-use planning		
development, infill	directives. The Land Development Code		
development, and	puts forth the ideas that are prevalent		
pedestrian oriented	throughout the code; that of zoning		
development,	regulations, design controls, and "green		
concentrated	development" practices, each of which		
activity centers,	promotes smart growth, and thereby		
strengthening	inadvertently improves air quality. One		
downtowns,	section of the code deals with the Town and		
balancing location	Country Zoning District. This zoning		
of housing and	designation illustrates transit-oriented		
employment	development, pedestrian oriented		
opportunities. Can	development, concentrated activity centers,		
include policies,	strengthening downtowns, and balancing		
programs, or actions	location of housing and employment		
such as zoning	opportunities. Landscaping Standards are		
regulations, design	also included in the Land Development		
controls, "green	Code. Planted trees reduce the need for air		
development"	conditioning, reduce the heat island effect in		
practices, and	urban areas, and reduce energy usage. Tree		
incentive programs	ordinances have been drafted to establish		

to encourage smart growth.	minimum tree planting standards for new development, and to promote strategic tree planting, street trees, and parking lot trees. Stringent specifications are laid out in the landscaping portion of the code, along with repercussions for not abiding by these standards. The Code also points out smoke and particulate matter being released into the environment. The Land Development Code promotes pedestrian friendly developments, and encourages bicycling and mass transit. Air quality is also enhanced by open spaces provided for in the Code.		
Join and participate	Richland County is a stakeholder in Clean	July 22, 2003	County Wide
in Clean Cities	Cities. We will seek forth ways to possibly increase the availability of alternative fuels		
	in our county, to increase the use of those		
	fuels, and to increase public awareness of		
	the benefits of using alternative fuels.		
	Richland County sends a representative to		
	Clean Cities meetings.		
Industry Advisory	Richland County seeks to create a forum by	Summer 2004	County wide
Panel	shich local industries can communicate new		
	ideas, and inform each other of the strides		
	each has made in ozone reduction. This		
	panel will focus on industries emitting the highest amounts of VOCs and NOx, but all		
	Richland County industries and other		
	interested parties will be invited to		
	participate. Form a group representing		

	stationary NOx sources in the county to share best practices, share technical resources in the county, and pursue targeted NOx reductions. This group could review emission inventories and modeling data to identify stationary sources with significant impact on ozone air quality. This group could also share best practices for NOx		
	control technology and technical/engineering resources and encourage NOx reductions to		
	support ozone attainment.		
Require replacement of all gasoline golf	Richland County has researched the possibility of purchasing electric golf carts	Emphasis will be placed the next	County Government Initiative
carts with electric.	for our county fleet. We currently have 4	time a golf cart is	
	golf carts, all of which use gasoline. Electric carts are lower maintenance and lower cost,	purchased.	
	and parts are also easier to get, thus		
	providing more of an incentive to purchase		
	electric carts in the future. The		
	recommendation has been made to our		
	Procurement Department that purchasing		
	electric golf carts be pursued in the future.		
Assist with	Richland County is looking to purchase	Richland County	Internal County
establishing	around 15 CNG vehicles for its motor pool	seeks to begin	Government Initiative
alternative fuels for	in FY 2004-2005. (We have applied for a	replacing	
public fleets. Fuels	Clean Cities grant to assist in the	petroleum-	
other than gasoline	incremental cost of replacing these vehicles.)	operated vehicles	
and diesel that are	Richland County seeks to replace all	with AFV's in	
used to power on-	practical vehicles (not including	late 2004	
road vehicles.	emergency/patrol vehicles) with		
Examples of	alternatively fueled vehicles over the next		

alternate fuels include bio-diesel, electricity, ethanol, liquefied petroleum gas, methanol, and natural gas.	few years. Richland County is also looking at the use of ULSD. Richland County is also considering E85 as an AFV option.		
Implement a program to educate and motivate individuals to take actions to minimize ozone pollution. Includes a focused distribution of educational materials, dissemination of SCDHEC groundlevel ozone forecast, increased media alerts to specific audiences, and includes action oriented components (i.e. ridesharing,	Richland County staff has composed and distributed a flier that is to be conspicuously displayed in all County departments. This information will also be placed on the County's website. Fliers include educational information regarding ozone awareness, and preventive measures that can be taken by all citizens. Email alerts to Richland County employees will be sent out on unhealthy air quality days (beginning May 1 st , 2003). This information will also be posted on the county's website.	June 2003 (Website up.) June 2003 (Flier distributed to County Departments)	County wide initiative. Information available online to the public at www.richlandonline.com
telecommuting, etc.) Meet with representatives of other metropolitan	Have spoken to municipalities in Richland County regarding ozone emission reduction strategies. Per Judith Edwards, Risk	Ongoing (Began Spring 2003)	Internal County Government Initiative

Manager for the City of Columbia, "the City areas that have implemented of Columbia is promoting car pooling for its programs to learn employees on a personal level as well as a business level wherever it is possible; from experiences. Determine promoting using the Troleey for getting around the downtown and Vista areas: feasibility of public replicating promoting using the bus successful programs transportation; having employees conserve or components in energy by turning off Ights, pc's, and any other source of electrical usage which is local areas. considered non-essential; asking the various community development groups to promote public awareness; and making sure that through the code ordinances that new businesses locating within the Civt are in compliance with air pollution standards.: Per John Hanson, Irmo Town Administrator: "The Town of Irmo... promotes the Clean Air Act and willingly supports control measures aimed at reducing pollution. The Town also requires employees to conserve energy by turning off lights, PC's, and any other source of electrical usage, which is considered non-essential." Per Judy Cotchett Smith, Palmetto Health (One of Richalnd County's largest employers; hospital system). "Palmetto Health encourages car pooling and the public transportation system. Palmetto Health Richland and Baptist are the first and second largest users of the bus system respectively. Air pollution: Palmetto Health uses natural gas to run our generators at PH Richland. Natural gas burns cleaner. Natrual gas is also the primary fuel source of our boilers. Energy conservation: Several years ago Palmetto Health retrofitted all the light ballasts to a more efficient type. PH has installed several variable speed motors in the pumping system to automatically reduce thte energy consumption during times of decreases demand. PH tints windows to control external heat loads." Per Renee Stephens, SH&E Manager for Square D (one of Richland County's largest employers). "Square D received registration to the ISO 14001 standard for our Environmental Management System (EMS) in September 2000. As part of our EMS, we have established and completed several objectives and targets relative to ozone reducing activities. These include the following: Replaced and existing chiller with a more energy efficient model and also replaced the CFC's with HCFC's. Provided information and training ot our employees to increase the level of ozone awareness to our employees in 2002.

	In 2002 SCRIEC BAO and laves		1	<u> </u>
	In 2003, SCDHEC BAQ employees			
	participated in the Square D SH&E Fair			
	providing information to our employees on			
	the "Take a Break From The Exhaust" and			
	"Trade It In for Cleaner Air" programs. The			
	Toyota hybrid gas/electric car was also			
	available for employees to test drive.			
	In 2003 implemented Energy Savings Plan			
	which included: 1) raised plant temperature			
	during summer operating hours, 2)computer			
	monitors are shut-off at night, 3)office/plant			
	lighting are shut-off during non-operating			
	hours, 4)plant boiler is shut-off at night, and			
	5)installed motion sensing lighting in			
	offices. Energy conservation will continue to			
	be evaluated as art of our program.			
	Proposed objective for 2004 to participate in			
	SCHEC's "Take A Break From The			
	Exhaust" program during the ozone forecast			
	season."			
	The Central Midlands Transit Authority is			
	currently running 7 Compressed Natural Gas			
	(CNG) buses. The remainder of the fleet (36			
	buses) run on new technology, clean burning			
	diesel.			
	diesei.			
	Actively participating in Clean Cities, which			
	has members from other counties/			
II.a aammuaaad	municipalities.	Various donorum - :- t-	Onssins	Internal Country
Use compressed	Many Richland County employees operate	Various departments	Ongoing	Internal County

work weeks or flexible work hours, which helps reduce traffic congestion during the peak driving hours by spreading out the number of vehicles on the roadway over a longer period of time.	on a flex-schedule. We hope to expand this program to other departments, where feasible.	utilize flex scheduling. This not only helps the environment, but cuts down on employee absenteeism as well.		Government Initiative
Encourage carpooling / vanpooling as an option where employees living in the same area agree to ride to work together rather than to drive their individual vehicles to work.	Encourage carpooling whenever possible.	Depending upon the number of people who carpool, a number of cars taken off highway can be determined.	Ongoing	Internal County Government Initiative
Local government joins and participates in the SC Early Action Plan for 8-hour ozone.	Richland County is actively participating in this process.		County Council agreed to participate in December 2002. Process is ongoing.	County wide
Develop City and County Energy Plan (Energy	Richland County currently promotes internal recycling in the administration building, as well as other county-owned buildings.		Ongoing	Internal County Government Initiative

Conservation) An energy plan could be developed that directs municipal departments to reduce energy use. This could include retrofitting municipal buildings/city schools and street lights for energy efficient, i.e. "Energy Star" Program, white roofs, etc., promoting transportation alternatives, and encouraging recycling and composting.	Recycling bins are placed throughout the building, ranging from white paper to aluminum cans receptacles. Will remind employees to turn out lights and turn off computers when not in use.			
Assign staff to become air quality contact / expert for jurisdiction.	Roxanne Matthews, Research Analyst roxannematthews@richlandonline.com (803) 576-2057 P.O. Box 192 Columbia, SC 29202	Not applicable	December 2002; Ongoing	Internal County Government Initiative
Encourage mass transit (transportation choices and	All Richland County citizens have access to mass transit. Use of mass transit is specifically encouraged for county, city, and state employees. The county also wishes to		Ongoing	County wide and Internal County Government Initiative

altamativas)	an acrima a lamas amas amalayans to adopt		_
alternatives)	encourage large area employers to adopt		
Т.	these measures.	1 2002	
Encourage not	This information is contained on fliers that	June 2003	County wide and
overfilling your fuel	are posted throughout county departments.		Internal County
tank. Stop when the	The flier is also online, and available to the		Government Initiative
nozzle clicks off.	public.		
Restrict mowing	Ozone action days will be a factor in	Ongoing	Internal County
days and times all	scheduling county activities. Also, the		Government Initiative
year, especially	county seeks to communicate to large		and possibly suggest
during ozone season	landscaping firms asking for cooperation and		County Wide to citizenry
/ ozone action days.	encouraging all in the county to refrain from		
Promote the use of	use of gas-powered equipment on ozone		
electric and propane	action days.		
lawn mowers.			
Consider tree	Landscaping Standards are included in the	The Land	County wide
planting/landscaping	Land Development Code. Tree ordinances	Development	•
standards. Planted	have been drafted to establish minimum tree	Code's proposed	
trees reduce the	planting standards for new development, and	implementation	
need for air	to promote strategic tree planting, street	date is January 1,	
conditioning, reduce	trees, and parking lot trees. Stringent	2005	
the heat island effect	specifications are laid out in this section,		
in urban areas, and	along with repercussions for not abiding by		
reduce energy	these standards.		
usage. Tree			
ordinances could be			
drafted to establish			
minimum tree			
planting standards			
for new			
development; and to			
promote strategic			

tree planting, street trees, and parking			
lot trees.			
Reduction of NOx,	The International Paper (IP) facility in	Ongoing	International Paper
VOC emissions at	Eastover has utilized the "best available	activities	(Eastover Mill)
International Paper:	control technology" on all of their NOx and		
Eastover	VOC emission units at the time of initial		
	installation, and subsequently as part of any		
	significant modification. The power boilers		
	at the Eastover Mill produce low NOx		
	emission levels because of both their design		
	(e.g. tangential firing) and fuel type (e.g.		
	waste wood). One power boiler at the		
	Eastover Mill is covered under the "NOx		
	SIP" and is expected to have emission levels		
	well below their current allocation. IP has		
	made recent changes that have resulted in		
	both actual and allowable NOx emission		
	reductions. IP is also currently evaluating		
	innovative approaches that would result in		
	significant future reductions of VOC		
	emissions (>100 tons per year), without any		
	increases in NOx emissions.		
Reduction of	Wateree Unit #1 SCR operated during much	Ongoing	SCE&G (Wateree
emissions from	of the ozone season of 2003.	activities	Station)
SCE&G	Wateree's Unit #2 SCR will be online for		
	the 2004 ozone season. SCE&G has applied		
	for over 1400 tons of early reduction credits		
	and has spent over 94.8 million dollars to		
	reduce NOx in Richland County.		
	We have currently budgeted and are doing		

	the engineering for additional reductions to be installed in 2004 at McMeekin Station which is also in Richland County. The installation of separated over fired air (SOFA) is planne dot reduce NOx at each unit by 20% SCE&G in 2003 launched an energy awareness campaign that include billboards, ads, and bill inserts.		
Prohibit/limit/ban open burning (all year or May – September or on Ozone Action Days); encourage to mulch clearing debris rather than burning it.	Richland County's Code of Ordinances speaks to this measure. All fires of any kind are prohibited within the right-of-way of any street, road, or highway except in certain cases. Open fires may be set in performance of an official duty of any public officer when deemed necessary to protect property, life, or the public welfare. Salamanders or other devices may be used for heating by construction or other workers, provided no nuisance is created. Open burning is prohibited within any "residential" zoning district (with a few exceptions). During a pollution alert declared by duly constituted authority, any and all open burning shall be unlawful.	Ongoing	County wide ordinance

Low Country Area

Local Early Action Plans

March 2004



Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, nobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Attachment 1 Beaufort County Early Action Compact List of Emission Reduction Strategies

			Proposed	Geographic area and/or
Measure under	Description of measure	Estimate of emission	date for	local government
Consideration	(A more detailed description will be included in the Early Action Plan.)	reductions (if available)	implementation	
Air Quality	One person will be identified as the Air Quality	Not available	March 2003	County wide
Contact	Contact. At a minimum, this contact will be			
	responsible for ozone education/outreach and			
	dissemination of ozone forecast.			
Support state- wide efforts	Beaufort County will support the efforts of SC DHEC regarding statewide emission reduction strategies.	Not available	As determined by SCDHEC	County wide

Beaufort County Final.doc 4

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as nonattainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Nonattainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, on-road and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

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Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Ozone Early Action Compact – March 12, 2004 Final List of Emission Reduction Strategies

Colleton County

According to the latest 8-hour ozone monitoring data, Colleton County should remain attainment for the 8-hour ozone standard. However, in an effort to assist other areas in South Carolina and in the interest of public health and the environment, in December 2002, Colleton County agreed to participate in the 8-hour ozone early action process. Therefore, based on stakeholder consultation and taking into consideration resource and political constraints, the following emission reduction strategies remain under consideration. Colleton County will continue to evaluate the air quality within the county and may implement one or more of the following measures under consideration.

			Proposed	Geographic area and/or
Measure under Detailed description of measure		Current assessment of emission reductions	Date for	local government
consideration	consideration		implementation	
Air Quality Contact One person will be identified as the Air Quality Contact. At		Moderate	March 2003	County wide
	a minimum, this contact will be responsible for ozone			
	education/outreach and dissemination of ozone forecast.			
Support state-wide				County wide
efforts regarding state-wide emission reduction strategies.				
Gas Can Exchange	Promote using spill-proof gas cans to improve air quality.	High	May 2004	County wide
Community	Survey the community and Industry as to their knowledge of	High	April 2004	County wide
Awareness	the effects of ground level ozone then follow through with			
	Ozone level awareness and emission reduction strategies.			
Consumer Ozone	Develop detailed consumer/citizen actions that will promote	High	October 2004	County wide
Reduction	the reduction of emissions in Colleton County.			
Strategies				
Industry Ozone	Develop detailed Industry actions by the types of industry	High	October 2004	County wide
Reduction	located in the County that will promote the reduction of			
Strategies	emissions in Colleton County.			
Emission reduction	Develop an emission reduction agreement with local	Very High	March 2005	County wide
Agreement	industry.			

Background

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Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Attachment 1 Hampton County Early Action Compact List of Emission Reduction Strategies

Emission Reduction Strategy	Description and analysis of how strategy will be implemented	Estimate of emission reductions (if available)	Date for implementation	Resource Concerns/ Constraints	Geographic area and/or local government
Air Quality	One person will be identified as the	Not available	March 2003	County wide	Air Quality Contact
Contact	Air Quality Contact. At a minimum, this contact will be responsible for ozone education/outreach and dissemination of ozone forecast.				
Support state- wide efforts	Hampton County will support the efforts of SC DHEC regarding statewide emission reduction strategies.	Not available		County wide	Support state-wide efforts

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Attachment 1 Jasper County Early Action Compact List of Emission Reduction Strategies

Emission Reduction Strategy	Description and analysis of how strategy will be implemented	Estimate of emission reductions (if available)	Date for implementation	Resource Concerns/ Constraints	Geographic area and/or local government
Air Quality	One person will be identified as the	Not available	March 2003	County wide	Air Quality Contact
Contact	Air Quality Contact. At a minimum, this contact will be responsible for ozone education/outreach and dissemination of ozone forecast.				
Support state- wide efforts	Jasper County will support the efforts of SC DHEC regarding statewide emission reduction strategies.	Not available		County wide	Support state-wide efforts

Lower Savannah Area

Local Early Action Plans

March 2004



In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

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Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, on-road and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

Early Action Compact Milestone – March 12, 2004 Final Plan of Emission Reduction Strategies

Aiken County

Based on stakeholder consultation and taking into consideration resource and political constraints, the following control measures under consideration can be reasonably implemented. It is anticipated these measures under consideration will assist Aiken County in achieving and/or maintaining the 8-hour ozone standard by 2007.

			Proposed	Geographic area
Measure under	Description of measure	Estimate of emission	date for	and/or local
Consideration	(A more detailed description will be included in the Early Action Plan.)	reductions (if available)	implementation	government
Air Quality	One person will be identified as the Air Quality	Not available	March 2003	Countywide
Contact	Contact for Aiken County. At a minimum, this contact will be responsible for ozone education/outreach and dissemination of ozone forecast. Each participating industry and municipality will also have an Air Quality Contact			
Support state- wide efforts	Aiken County will support the efforts of SC DHEC regarding statewide emission reduction strategies.	Not available	When Available	Countywide
Alternative Fuels	 Switch Aiken County Transit Fleet to Bio-diesel. Convert SCE&G Power Plant from Coal Burning to Gas Turbine Generators. Switch diesel vehicles to bio-diesel. 	Not available Not available	- June 2002 - 2002	- Transit service area - SCE&G Aiken Power Plant - Aiken County Industries
Type II Fuels	Use low-sulfur Type II fuels in all vehicles	Not Available	When Available in Aiken County	Countywide
Community Awareness and Education	Promote the Aiken County Early Action Plan at meetings where the public is invited. Issue press releases to the local media. SCE&G is promoting an energy conservation awareness program.	Not available	July 2003	Countywide
Commuter Choice Program	Promote transit as a mode of transportation to get to the workplace through employer incentives.	Not Available	May 2003	Transit Service Area

Intelligent Transportation Systems	Install ITS equipment along major routes within the urbanized portion of Aiken County that follows the guidelines of our Advanced Traffic Management System Master Plan.	Not Available	Master Plan completed May 2002. Equipment installation post FY2007.	Urbanized area of Aiken County
Promote Multi- modal Land Use	Revise ordinances to promote bicycle and pedestrian facilities and establish minimum tree planting requirements.	Not Available	Aiken County ordinance revision started June 2003 (effective upon County Council approval and set effective date).	Countywide
Open Burning Ordinance	Ban or limit open burning within city limits.	Not Available	Implemented	City of Aiken City of North Augusta
Mid-day Carpooling	Encourage employees to carpool to lunch.	Not Available	2003	Aiken County Industries
Occupancy Sensors	Install workspace occupancy sensors to reduce energy consumption.	Not Available	2003-2004	Aiken County Industries
Reflective Surfaces	Paint exposed surfaces of building with reflective paint to reduce energy consumption.	Not Available	2003-2004	Aiken County Industries
High Efficiency Equipment	Purchase Energy Star products when appropriate.	Not Available	2003	Aiken County Aiken County Industries

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The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

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What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Attachment 1 Allendale County Early Action Compact List of Emission Reduction Strategies

Emission Reduction Strategy	Description and analysis of how strategy will be implemented	Estimate of emission reductions (if available)	Date for implementation	Resource Concerns/ Constraints	Geographic area and/or local government
Air Quality	One person will be identified as the	Not available	March 2003	County wide	Air Quality Contact
Contact	Air Quality Contact. At a minimum,				
	this contact will be responsible for				
	ozone education/outreach and				
	dissemination of ozone forecast.				
Support state-	Allendale County will support the	Not available		County wide	Support state-wide
wide efforts	efforts of SC DHEC regarding state-				efforts
	wide emission reduction strategies.				
Measures taken	Allendale County Emergency		Completed on	Allendale County Government	Measures taken to
to present	Management Agency distributed to all		May 20, 2003.		present
	county employees, information about				
	Air Quality basics and protective				
	measures.				

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

Attachment 1 Bamberg County Early Action Compact List of Emission Reduction Strategies

Emission Reduction Strategy	Description and analysis of how strategy will be implemented	Estimate of emission reductions (if available)	Date for implementation	Resource Concerns/ Constraints	Geographic area and/or local government
Air Quality Contact	One person will be identified as the Air Quality Contact. At a minimum, this contact will be responsible for ozone education/outreach and dissemination of ozone forecast.	Not available	March 2003		County wide
Support state- wide emission reduction efforts	Bamberg County will support the efforts of SC DHEC regarding statewide emission reduction strategies	Not available	Upon implementation by state		County wide

Bamberg County Final.doc 4

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as nonattainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Nonattainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Even though Barnwell County is a potential area to be designated non-attainment for the 8-hour ozone standard. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of Barnwell County and South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, on-road and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

Early Action Compact Milestone List of Emission Reduction Strategies Under Consideration

Barnwell County

Based on stakeholder consultation and taking into consideration resource and political constraints, the following control measures under consideration can be reasonably implemented. It is anticipated these measures under consideration will assist Barnwell County in achieving and/or maintaining the 8-hour ozone standard by 2007.

			Proposed	Geographic area
Measure under	Description of measure	Estimate of emission	date for	and/or local
Consideration	(A more detailed description will be included in the Early Action Plan.)	reductions (if available)	implementation	government
Air Quality	During the peak Ozone months Barnwell County	Not available	2003	County wide
Contact	will have a designated Ozone Action Coordinator			
	(OAC). His\her responsibility will be to monitor			
	Ozone Forecast and implement Ozone Reduction			
	Action Plan. High Ozone Alerts will be available			
	from local television and radio news/weather			
	broadcast and E-mail alerts from DHEC.			
	Barnwell County will form a county ozone			
	committee, consisting of all county department			
	heads, to develop and implement a countywide			
	Ozone Reduction Action Plan.			
	Actions may include:			
	Stricter fuel conversation measures			
	Restrict or change time of landscaping and lawn			
	mowing equipment			
	Restrict unnecessary use of on-road vehicle usage			
	Encourage employees to eat lunch in-house			
	Restrict using cleaning chemicals and non-latex			
	paint			
	Employ stricter building conservation measures			
	Promote and encourage car-pooling			

Support state- wide efforts	Barnwell County will support the efforts of SC DHEC regarding statewide emission reduction strategies.	Not available	Ongoing Activity	County wide
Bio-Diesel/ Alternative Fuels:	Barnwell County will be seeking information on Alternative Fuels.	Not available	Not available in Barnwell County at this time	County wide
Reduction of Idling or No- Idle Policy for County Vehicles:	Department Heads will develop and implement inter-departmental plans to reduce or eliminate idling times on vehicles and ground maintenance equipment. This policy will contain stricter guidelines for use during high ozone days.	Not available	Implemented 2003	County wide
Stricter Controls of Illegal/ Unauthorized Outdoor Burning:	Barnwell County's Fire Districts, Emergency Services and Sheriff's Department will work in combination with State Agencies to develop this action. This action will focus on issues dealing with illegal burning, tires, plastics, roofing materials and hazardous substances.	Not available	Implemented 2003	County wide
Vehicle Replacement:	Barnwell County's Business Manager will develop a plan to purchase replacement vehicles with a priority on vehicles and equipment with the latest emission reduction standards. Over a five to seven year period our present fleet can be replaced with a cleaner burning and better fuel-efficient fleet.	Not available	Still under review	County wide
Community Awareness and Education:	Enhancing Ozone awareness and education will be a vital part of our Early Action Plan. Aggressive A/E programs to motivate individuals, business, industries and organization to take actions to minimize ozone pollution. A/E will include public speaking, distribution of educational materials and increased media alerts promoting Clean Air Awareness.	Not available	Implemented 2003 and Ongoing	County wide

Early Action Compact Milestone - June 2003 - Progress Report Barnwell County

1. Document progress in developing stakeholder process, including, for example, roles and responsibilities of various stakeholder groups, list of stakeholders, brief summary of stakeholder meetings, stakeholder involvement in development of initial list of control measures, etc.

Upon agreeing to participate in the early action process for the 8-hour Ozone standard, the Barnwell County Administrator, delegated the program responsibility to John F. Angil, II, Director of Emergency Management.

A meeting inviting local industry representatives, local state agencies (i.e., SCDOT, DHEC Lower Savannah EQC office, Forestry Commission), DHEC representatives, county economic development personnel, county planning personnel, local news media and municipalities and towns within the county was held. The purpose of the meeting was to establish a Steering Committee. An overview of the ozone standard, implementation, boundary designations and the early action SIP process were discussed. The representatives attending agreed to serve on the Steering Committee.

Steering Committee activities to date: Formed two sub-committees.

- ?? Industry This sub-committee, chaired by the county Economic Development Commission, consists of local industry and Barnwell County government. There one meeting where industry representatives have discussed emission reduction measures that have taken place over the last several years and that are proposed. There has also been discussion regarding industry and business implementing voluntary commute and work schedule efforts for employees.
- ?? City, County and State Government This sub-committee, chaired by John Angil, is comprised of government officials and is looking at strategies that can be implemented within the respective day-to-day government operations. This may include implementing voluntary commute options and alternate work schedules to avoiding lawn maintenance activities on Ozone Action Days. Barnwell County has appointed an Ozone Action Coordinator that will be responsible for notifying government officials, industry, business and concerned citizens of Ozone Action Days.
 - a. Recognizes the need for an Education and Outreach sub-committee once proposed emission reduction strategies are developed.
 - b. Discussed the possibility of local governments signing a resolution in support of the county's commitment to the 8-hour Ozone Early Action Plan
 - c. Discussed the possibility of local industry submitting letters of support to the county.
 - d. Proposed Ozone Reduction Activities for implementing year-round and also activities for Ozone Action days. To continue participation in the 8-hour Ozone early action process, this information is required to be submitted to EPA by June 16, 2003. This information may be modified prior to and/or after that date.

- e. The committee is not aware of local environmental organizations to invite their participation in these efforts.
- 2. Report progress on evaluating and selecting emission reduction measures for the local control strategy.

See June 16, 2003 submittal List of Emission Reduction Strategies Under Consideration.

3. Describe public outreach activities (press coverage, public presentations, websites, etc.)

Barnwell County is committed to develop, implement and maintain an Ozone Reduction Early Action Plan. The purpose and goals of this plan is for Barnwell County to work with City, State and federal Government Agencies, Industries and Public Interest Group to obtain cleaner air sooner than Federally mandated.

A meeting is planned for June 20th.

4. Provide update on modeling/technical planning activities.

These activities are the responsibility of the state. Refer to the June 2003 Progress Report submitted by the South Carolina Department of Health and Environmental Control, Bureau of Air Quality.

5. Continued discussions of plans for reduction strategies during Business and Industry roundtable to keep from obtaining non-attainment status.

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Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, on-road and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

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Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

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The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

Early Action Compact Milestone- March 2004 List of Emission Reduction Strategies Under Consideration Calhoun County

Based on stakeholder consultation and taking into consideration resource and political constraints, the following control measures under consideration can be reasonably implemented. It is anticipated these measures under consideration will assist Calhoun County in achieving and/or maintaining the 8-hour ozone standard by 2007.

			Proposed	Geographic area
Measure under	Description of measure	Current assessment of	date for	and/or local
Consideration	(A more detailed description will be included in the Early Action Plan.)	emission reductions	implementation	government
Air Quality	One person will be identified as the Air Quality	Not available	March 2003	County wide
Contact	Contact. At a minimum, this contact will be			
	responsible for ozone education/outreach and dissemination of ozone forecast.			
Support state-	Calhoun County will support the efforts of SC DHEC	Not available	August 2003	County wide
wide efforts	regarding state-wide emission reduction strategies.		8	
Heavy Equipment	Delay/Reschedule mowing and motorized	Not available	July 2003	County government
operation	construction on Ozone Action Days.	- 101 011000		County government
•	construction on Ozone Fields Buys.			
Small Engine	Delay/Reschedule landscaping activities with	Not available	July 2003	County government
operation	small engine use on Ozone Action Days.			
Fueling	Do not 'top off' fuel tanks when refueling.	Not available	July 2003	County government
Buildings	Have employees turn off computers and lights	Not available	July 2003	County government
-	daily.		-	
Painting	Restrict indoor and outdoor painting on Ozone	Not available	July 2003	County government
	Action Days.			
Awareness	Promote employee education/awareness of ozone	Not available	July 2003	County government
	issues.			
Schedules	Change outside employee work hours to	Not available	July 2003	County government
	accommodate summer temperatures.			

Orangeburg County Early Action Plan for the 8-Hour Ozone Standard

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAOS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

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Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

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The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

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Maintenance

Measure under Consideration	Description of measure (A more detailed description will be included in the Early Action Plan.)	Estimate of emission reductions (if available)	Proposed date for implementation	Geographic area and/or local government
Air Quality Contact	One person has been identified as the Air Quality Contact. At a minimum, this contact will be responsible for ozone education/outreach and dissemination of ozone forecast. John H. Smith	Not available	March 2003	County wide
Support state- wide efforts	Orangeburg county will support the efforts of SC DHEC regarding statewide emission reduction strategies.	Not available	Ongoing	County wide
Stakeholder development	Identify and expand the stakeholders for the successful implementation of this program. Initial contact has been made through the county's Local Emergency Planning committee (LEPC)	Not available	June 2003	County wide
Integrate notification procedure	Integrate the notification procedure into existing Notification procedures using organic resources of the Emergency services dept/EOC.	Not available	June 2003	County wide
Public education program	Utilize existing public education programs to include ozone program using organic resources of OES dept and Project Impact program	Not available	July 2003	County-wide
Vehicle operations	Vehicle maint. Department is planning to purchase test alternative fuel vehicles, if results are good County may be able to replace 10% of fleet within Five years	Not available	June 2004	County wide
Vehicle operations tracking	County is installing GPS/vehicle monitors which Will also monitor all engine idling time and Miles driven. Will help identify options to reduce Vehicle idling and unneeded mileage.	Not available	June 2004	County wide

Pee Dee Area

Local Early Action Plans

March 2004



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Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

Attachment 1 Chesterfield County List of Emission Reduction Strategies

According to the latest 8-hour ozone monitoring data, Chesterfield County should remain attainment for the 8-hour ozone standard. However, in an effort to assist other areas in South Carolina and in the interest of public health and the environment, in December 2002, Chesterfield County agreed to participate in the 8-hour ozone early action process. Therefore, based on stakeholder consultation and taking into consideration resource and political constraints, the following emission reduction strategies remain under consideration. Chesterfield County will continue to evaluate the air quality within the county and may implement one or more of the following measures under consideration.

Measure under consideration	Detailed description of measure	Current assessment of emission reductions	Proposed date for implementation	Geographic area and/or local government
Air Quality Contact	One person will be identified as the Air Quality Contact. At a minimum, this contact will be responsible for ozone education/outreach and dissemination of ozone forecast.	Directionally Sound	March 2003	County wide
Support state- wide efforts	Chesterfield County will support the efforts of SC DHEC regarding state-wide emission reduction strategies.	Directionally Sound		County wide

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

Darlington County

Measure under consideration	Detailed description of measure	Current assessment of emission reductions	Proposed date for implementation	Geographic area and/or local government
Ozone Action Coordinator	A county staff person responsible for dissemination of ozone forecasts	Not available	March 5, 2003	County wide
County Ozone Committee	County Department Heads and the Ozone Action Coor. Are developing for implementation, a countywide Ozone Reduction Plan. The plan will be made available to local business and industry for possible adoption for their programs. Plan preparations will continue thru out the year in preparation for the up coming 2004 season.	Not available	April 15, 2003	County wide
Use of Bio-Diesel/ Alternative Fuels	Convert our diesel fleet to Bio-Diesel and low sulfur fuels.	Currant data shows we can expect a 20% decrease in emissions by using this product. We estimate by last years usage we will use 123,272 gallons of fuel in the up coming budget year.	July 1, 2003	County wide
		The alternative fuel has been in use for the last six months with no harmful effects to the vehicles. Darlington County will continue the use of the product.	December 5, 2003	
Reduction of Idling or No-Idle Policy for county vehicles	Department Heads will develop and implement interdepartmental plans to reduce or eliminate idling time on vehicle and maintenance equipment.	Not available	July 1, 2003	County wide
	The county departments are in the process of writing the policies at this time. The plan should be ready June		December 5, 2003	

	of 2004.			
Stricter controls of Illegal/Unauthorized outdoor burning.	Darlington County's Code Enforcement, Fire District, Emergency Services and Sheriff's Department will work in combination with State Agencies to develop this action. Information collected on this issue will be forwarded to Darlington County Council for consideration involving this	Not available	July 1, 2003 December 5, 2003	County wide
	issue.			
Fleet Replacement	Darlington County's Materials Manager and Vehicle Maintenance Contractor will develop a plan to purchase replacement vehicles. Future RFP's should place priority on vehicle and equipment with the latest emission reduction standards.	Not available	July 1, 2003	County wide
Community Awareness and Education	Awareness and Education will include public speaking, distribution of educational materials and increase media alerts promoting clean air. The Darlington County School Superintendent will be contacted and requested to encourage the teachers in this county to participate in training classes provided by the SC DHEC Air Quality Bureau, and include the information in the school curriculum.	Not Available	March 30, 2003 Robbin Brock spoke at the Joint City/County meeting in Hartsville; Representatives from the town of Lamar and Society Hill, the cities of Hartsville and Darlington and the County of Darlington were present. Senator Gerald Molloy and Representative Jay Lucus were also in attendance. An ozone awareness presentation was done, followed by a lengthy discussion on the potential negative economic impact non-attainment could cause. April 14, 2003 A presentation was done for Sonoco Products on Ozone Awareness. May 14, 2003	County wide

Darlington County Ozone Steering Committee task the Emergency Services staff to produce a three-page brochure with Ozone information specific for Darlington County. August 1, 2003 The brochure was sent to the printers and is now available for distribution. December 3, 2003 The county ozone staff attended a
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The county ozone staff attended a
staff attended a
training meeting at
SC DHEC Air
Quality Bureau. The
new programs will be
forwarded to the
school district for
consideration for the
county school
curriculum. First
contact will be made
around January 2,
2004.
February 10, 2004
Presentation resented
to the Hartsville
Cancer Survivor
Group.
March 2, 2004
Presentation resented
to the Senior Citizen
Group of Pine Ridge.
March 3, 2004
Dr. Flossie Hopkins,
Director of
Curriculum &
Instruction contacted

			our office to inform the county she had assigned the science study personnel to distribute and recruit staff for the teachers programs. TV 15 news interviewed our department of the use of Bio-Diesel.	
Energy Conservation	Energy conservation plans will be developed that directs county departments to reduce the overall yearly energy usage by 5-10%. Our currant data shows 5,932,976 kwh used, a 5% reduction will be 296,648 kwh.	Not available	July 1, 2003	County wide
Restrict or change the time of use of landscaping and lawn mowing equipment	County Department Heads will receive daily ozone alerts from the Ozone Action Coordinator, on days with high alerts these activities are being rescheduled.	Not available	May 1, 2003	County wide
Reduction in unnecessary use of on-road vehicle use and conservation of fuel.	County Department Heads will monitor vehicle and fuel usage on high alert days and decrease departmental use as much as possible.	Not available	May 1, 2003	County wide
Promote and encourage employees to eat in or carpool for meals during work hours.	Provide employees with facilities to eat in during working hours and flexible lunch hours to encourage carpooling for meals.	May 15, 2003 we conducted a multi-departmental survey to determine the effects of this measure. 83 out of 100 employees who were ark to take part in the survey returned the survey. We found that by providing facilities (exam. break rooms or kitchens) and flexible lunch hours 52% of the employees are eating meals in with an estimated savings of 9,900 vehicle miles traveled yearly. The average mileage for one employee was 3.14 miles per meal	February 12, 2003	County wide

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, on-road and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Dillon County

According to the latest 8-hour ozone monitoring data, Dillon County should remain attainment for the 8-hour ozone standard. However, in an effort to assist other areas in South Carolina and in the interest of public health and the environment, in December 2002, Dillon County agreed to participate in the 8-hour ozone early action process. Therefore, based on stakeholder consultation and taking into consideration resource and political constraints, the following emission reduction strategies remain under consideration. Dillon County will continue to evaluate the air quality within the county and may implement one or more of the following measures under consideration.

Measure under consideration	Detailed description of measure	Current assessment of emission reductions	Proposed date for implementation	Geographic area and/or local government
Air Quality Contact	One person will be identified as the Air Quality Contact. At a minimum, this contact will be responsible for ozone education/outreach and dissemination of ozone forecast. (Robert Abson)	Directionally Sound	March 2003	County wide
Support state- wide efforts	Dillon County will support the efforts of SC DHEC regarding state-wide emission reduction strategies.	Directionally Sound		County wide

Florence County, South Carolina Early Action Plan for the 8-Hour Ozone Standard

Executive Summary

Florence County, South Carolina entered into an 8-Hour Ozone Early Action Compact with the South Carolina Department of Health and Environmental Control (SCDHEC) wherein the County committed to develop and implement programs aimed at reducing the formation of ground level ozone. The Florence County Economic Development Partnership is administering the Early Action Compact, which calls for the establishment of a Florence County Ozone Early Action Steering Committee. The Committee was established via appointments from County Council and the Partnership. Mr. Jay Smaldone, who is the Environmental Manager for Roche Carolina, Inc., currently chairs the Committee. The Committee has produced this plan in order to satisfy the requirements of the Early Action Compact. This plan contains the actions to be taken which include: a public and business awareness campaign as well as actions to influence behaviors aimed at reducing emissions of nitrous oxide and volatile organic compounds in Florence County.

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season". If an area is designated as non-attainment, the Clean Air ACT (CA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. EPA has provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reduction, while providing "fail-safe" provisions for the area to revert to the process (attainment or non-attainment) but will defer the effective date. A copy of the Florence County EAC public and business awareness and emission reduction strategies is included in Attachment I.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). On December 18, 2002, Joe King, Florence County Administrator signed an Early Action Compact (EAC) for Florence County. Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment area to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004. This plan has been reviewed and approved by Florence County Council.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure. The following 2002 statistics are for Florence County and were collected by the Bureau of Epidemiology at DHEC:

- 5.4 per cent of the adults suffer annually from asthma;
- 384 hospitalizations were due to asthma (all ages).
- 110 asthma hospitalizations of children under the age of 18.
- 402 children under the age of 18 visited the Emergency Room due to asthma.

Sources of NOx and VOCs

NOx and VOCs are emitted from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources include gas and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, on-road and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans. The following figures for Florence County show the percentage of sources by category for NOx (Figure 1) and VOCs (Figure 2). This data is updated periodically by SCDHEC.

Figure 1-NOx

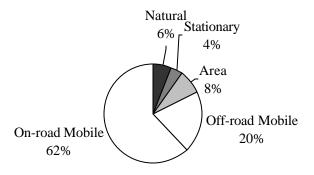
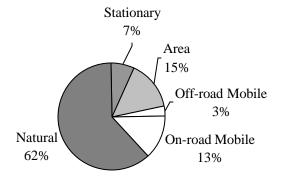


Figure 2-VOC



Emissions of NOx and VOC's are precursors to the formation of ozone. South Carolina is sometimes referred to as "NOx limited". This means that small amounts of NOx enable ozone to form rapidly when VOC levels are relatively high, but ozone production is quickly limited by the removal of NOx. Under these conditions, NOx reductions are highly effective in reducing ozone while VOC reductions have little effect. Figure 1 shows that 62 percent of the NOx emissions are from on-road mobile sources. With such a high percentage of NOx coming from on-road sources, it would appear that reductions from mobile sources would be beneficial.

Demographics

Florence County is 800 square miles with a population of 125,761 according to the 2001-2002 South Carolina Statistical Abstract. The population density per square mile of land area is 157.2. There are a total of 1,366.98 miles of interstate, state primary and state secondary roads in the county. The number of registered vehicles in Florence County was 99,506, ranking the county 11th among South Carolina counties for number of registered vehicles.

Of the total population, 54,482 people over the age of 16 are employed. Of those employed, 52,847 people commute to work. The distribution of commute choices is identified on Table 1.

Table 1					
Distribution of Commute Choices of Employed over the age of 16					
Drove Alone 43,968 80.6					
Carpooled	7,573	13.9			
Worked at home	872	1.6			
Other	763	1.4			
Walked	763	1.4			
Public Transportation	543	1.0			

Other includes motorcycles, bicycles and other means of transportation not identified.

Industry

Attachment II contains a list of the industry within Florence County and the most recent annual emission figures.

Public Involvement

Reference: Florence County Early Action Plan

Steering Committee

Meeting held to date regarding EAP:

- ?? July 8, 2003 A meeting was held in which all COG counties participated including DHEC Central Office.
- ?? August 7, 2003, DHEC, Columbia An Early Action Plan meeting was held. Representatives from Florence County attended.
- ?? Submitted December, 2003 progress report to SCDHEC for List of Emission Reduction Strategies Florence County.

Emission Reduction Strategies

Through the development and implementation of this plan, Florence County will implement local emission reduction strategies that are economically feasible and that make sense for the county. In doing so, the efforts of Florence County should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs included the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help area attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include Best Available Control Technology (BACT) regulations; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Local measures must be implemented no later than April 2005. However Florence County will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. It is not possible to determine emissions reductions for each of the following strategies. However, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Challenges

Florence County will be faced with challenges regarding the implementation of emissions reduction strategies. Behavior modification will be one of the challenges faced. Florence County through the development of the Florence County Ozone Steering Committee and the efforts of the Ozone Action Coordinator, is currently educating area businesses and local citizens on the air quality standards and the implications of not meeting the standards. As education efforts are implemented, the county anticipates behavior modifications by local citizens. It will be through the joint efforts of local government, private citizens, business, and industry that Florence County will be able to assist the state in meeting and maintaining the 8-hour ozone standard.

Maintenance

Local measures must be implemented no later than April 2005. However, as previously mentioned, Florence County will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, Florence County will review and evaluate the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Florence County will continue to evaluate the effectiveness of these strategies and adjust where needed. Maintenance of the standard will depend upon the success of emission reduction strategies implemented by Florence County and surrounding counties as well as federal and state initiatives.

Attachment II

	Florence County Point Source NO2 Emissions					
County	Plant Name	Permit Number	Pollutant	Point Source – NO2 (Tons Per Year)		
Florence	APAC Carolina: #418 Florence	9900-0160	NO2	9.38		
Florence	APAC Carolina: #422 Florence	9900-0217	NO2	4.32		
Florence	Delta Mills: Pamplico/Cypress	1040-0011	NO2	3.50		
Florence	Dupont: Teijin Films	1040-0015	NO2	216.65		
Florence	ESAB Welding & Cutting Products	1040-0013	NO2	1.95		
Florence	Ingram Lumber Company	1040-0016	NO2	4.04		
Florence	Interstate Brands Corporation	1040-0089	NO2	2.66		
Florence	Koppers, Incorporated: Florence	1040-0008	NO2	11.30		
Florence	Marsh Lumber Company	1040-0010	NO2	7.16		
Florence	Maytag: Florence Plant	1040-0067	NO2	4.63		
Florence	McCall Farms	1040-0070	NO2	6.27		
Florence	McLeod Medical Center	1040-0048	NO2	5.75		
Florence	Palmetto Paving: Florence	9900-0337	NO2	3.49		
Florence	Roche Carolina	1040-0076	NO2	3.30		
Florence	Stone Container: Florence	1040-0003	NO2	2,935.78		
Florence	Vulcraft Division of Nucor	1040-0029	NO2	1.29		
Florence	Wellman Incorporated: Main Plant & Recycling	1040-0006	NO2	21.39		
Florence	Young Pecan	1040-0026	NO2	0.16		
	nce Co Total			3,243.02		
Emissions	in Non-attainment Area-Total			246.88		
Emissions	Emissions in Non-attainment Area-Percent			8.2%		

Attachment III

County	Plant Name	Permit Number	Pollutant	Point Source – VOC (Tons Per Year)
Florence	APAC Carolina: #418 Florence		VOC	4.50
Florence	APAC Carolina: #422 Florence	9900-0217	VOC	0.71
Florence	Delta Mills: Pamplico/Cypress	1040-0011	VOC	5.80
Florence	Dupont: Teijin Films	1040-0015	VOC	43.50
Florence	ESAB Welding& Cutting Products	1040-0013	VOC	30.34
Florence	Interstate Brands Corporation	1040-0016	VOC	79.41
Florence	Koppers, Incorporated: Florence	1040-0008	VOC	44.40
Florence	Marsh Lumber Company	1040-0010	VOC	0.55
Florence	Maytag: Florence Plant	1040-0067	VOC	7.39
Florence	McCall Farms	1040-0070	VOC	0.03
Florence	McLeod Medical Center	1040-0048	VOC	2.37
Florence	Palmetto Paving: Florence	9900-0337	VOC	2.55
Florence	Roche Carolina	1040-0076	VOC	0.07
Florence	Socar	1040-0086	VOC	149.98
Florence	Steelfab	1040-0092	VOC	9.98
Florence	Stone Container: Florence	1040-0003	VOC	1,375.85
Florence	Vulcraft Division of Nucor	1040-0029	VOC	582.33
Florence	Wellman Incorporated: Main Plant & Recycling	1040-0006	VOC	41.18
Florence	Young Pecan	1040-0026	VOC	0.01
1999 Flore	ence Co Total			2,380.95
Emissions	in Non-attainment Area-Total			957.54
Emissions	in Non-attainment Area-Percent			40.2%

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Attachment I

Early Action Compact Milestone – December 2003 List of Emission Reduction Strategies Under Consideration

Florence County

Measure under consideration	Detailed description of measure	Current assessment of emission reductions	Proposed date for implementation	Geographic area and/or local government
Support SCDHEC Statewide efforts to reduce ground-level ozone in Florence County.	Develop steering committee to support and participate in developing action items and emission reduction efforts in order to satisfy requirements of Early Action Compact.	Committee members defined.	On-going	
Designate an Ozone Action Coordinator	Designate a representative who will be responsible for coordination of county ozone programs.		Complete	
Work with Owners/ Operators of major vehicle fleets to reduce NOx and VOC emissions.	Identify owners/operators of major fleet vehicle pools in Florence Co. Catalog the number and type of fleet vehicles and fuel used (15 or more units).	70 fleet owners identified within Florence Co.	4th QTR, 2003	Florence Co.
	Encourage the adoption of "no-idling" policies by owners/operators where feasible. Encourage fleet maintenance to ensure that vehicular emissions remain within manufacturer's standards.	Evaluate policies from different areas.	1 st QTR, 2004	
	Encourage the replacement of older vehicles with vehicles that are more fuel-efficient and with lower emissions.		1 st QTR, 2004	
	Encourage fleet operators to constantly review routing and scheduling to maximize efficiency and reduce fuel consumption.		On-going	
	Encourage fleet operators to install vapor recovery equipment at their central fueling stations.		4 th QTR, 2004	
	Evaluate alternatives for fueling vehicles after 6:00 PM.		3 rd QTR, 2004	
	Evaluate fueling station for Gas/Methanol mixture.		4 th QTR, 2004	

Florence County

			Proposed	Geographic area
Measure under	Detailed description of measure	Current assessment of	date for	and/or local
consideration	-	emission reductions	implementation	government
Reduce emissions from open	Evaluate changes to county and municipal	Ban on Open Burning in the	2nd QTR, 2004	
burning.	ordinances to minimize emissions from outdoor burning. Coordinate with state agencies to ensure state requirements are satisfied.	City of Florence.		
	Evaluate pallet recycling alternatives in the county.		3rd QTR, 2004	
Work with electric and natural gas utilities to perform energy audits on all public facilities.	Determine current energy consumption patterns in public and institutional facilities and establish baseline data. Perform energy audits.		2nd QTR, 2004	
	Encourage governments in Florence County to educate their employees on day-to-day energy conservation measures.		1 st QTR, 2004	
	Set energy reduction goals and monitor progress toward satisfying targets.		3 rd QTR, 2004/ongoing	
Encourage golf courses utilizing gasoline powered carts and maintenance equipment to switch to electric or newer, more efficient gasoline powered carts and equipment.	Generate inventory of gasoline powered carts and equipment. Monitor and report replacement of existing carts and equipment with electric carts or newer, more fuel efficient and lower emission gasoline powered carts and equipment.		3 rd QTR, 2004	

Florence County

			Proposed	Geographic area
Measure under	Detailed description of measure	Current assessment of	date for	and/or local
consideration		emission reductions	implementation	government
Evaluate potential for "Park and Ride" Program.	Coordinate with SC DOT and Pee Dee Regional Transportation Authority officials to evaluate options for "Park and Ride" and other mass transit opportunities. Evaluate available grants.		4 th QTR, 2004	
Encourage car pooling to work in Florence County.	Encourage major employers in the county to implement car pooling. Evaluate "preferred parking" and other incentive programs.		4 th QTR, 2004	
Evaluate the potential for city and county to reschedule heavy equipment operations on forecasted high ozone days.	Investigate impact of re -scheduling mowing, construction and other heavy equipment operations on forecasted high ozone alert days.		2 nd QTR, 2004	
Investigate the availability of "green power" and encourage local businesses and governments to adopt.	Evaluate availability of "green power" in Florence County. Work with local utilities to evaluate alternatives.		2nd QTR, 2004	
	Document consumption of "green power" in order to quantify emission reductions.		3 rd QTR, 2004	

Florence County

Measure under consideration	Detailed description of measure	Current assessment of emission reductions	Proposed date for implementation	Geographic area and/or local government
Reduce emissions from over- the-road vehicles that idle for extended periods at truck stops and rest areas.	Work with truck stop owners and SCDOT to investigate the feasibility of installing electrical hookups for over the road vehicles at truck stops and rest areas.	Grant money available to assist in program implementation.	3 rd QTR, 2004	
Gasoline can trade-out program.	Conduct annual "Trade-it-In for Cleaner Air" day where citizens can trade-in-their old gasoline cans for the newer, "spill proof" variety. Work with landscaping and lawn maintenance firms in the county to encourage utilization of the larger "spill proof" fuel containers.	Coordinate with City and County annual recycling program.	4th QTR, 2004	
Utilize Public access and commercial television stations as forums for disseminating information about the impacts of ground-level ozone.	Develop and disseminate a 30-second or 60-second "public service" spot for airing on local and regional television.		2nd QTR, 2004	
	Place "rolling messages" on the government access channel.		2nd QTR, 2004	
	Develop and air documentary explaining concerns from ground-level ozone and suggested actions and modifications to help reduction level.		2nd QTR, 2004	
	Work with local media (radio, television and newspaper) to post daily ozone forecasts as part of local weather reports.		2nd QTR, 2004	

Florence County

Measure under	Detailed description of measure	Current assessment of	Proposed date for	Geographic area and/or local
consideration Make presentations to local civic clubs, businesses, and government councils and agencies regarding impacts	Develop power point slide presentation which outlines issues surrounding ground-level ozone and Early Action Plan and make presentations to various groups.	emission reductions Complete	implementation On-going	government
of ground-level ozone.	Schedule presentations with the various groups identified within the City and County.		1st QTR, 2004	
Work with SCDHEC to obtain brochures and other educational materials for education to the community.	Distribute brochures and other educational materials to the various groups.	Complete.	1st QTR, 2004	
Generate on-going coverage by local/regional newspapers, magazines, association letters, etc. regarding ground-level ozone issues.	Develop narrative about the issues surrounding ozone problem for distribution to local newspapers.		1st QTR, 2004	
	Develop narrative about the issues surrounding ozone problem for distribution to business in company newsletters.		1st QTR, 2004	

Florence County

Measure under consideration	Detailed description of measure	Current assessment of emission reductions	Proposed date for implementation	Geographic area and/or local government
Work with Florence County School Districts to educate teachers and students regarding	Distribute brochures and give presentations to students/teachers as part of educational process to inform students of issues surrounding ground-level ozone.	compared reductions	2nd QTR, 2004	government
ground-level ozone issues.				

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Attachment 1

Early Action Compact List of Emission Reduction Strategies Marion County

According to the latest 8hour ozone monitoring data, Marion County should remain attainment for the 8hour ozone standard. However, in an effort to assist other areas in South Carolina and in the interest of public health and the environment, in December 2002, Marion County agreed to participate in the 8-hour ozone early action process. Therefore, based on stakeholder consultation and taking into consideration resource and political constraints, the following emission reduction strategies remain under consideration. Marion County will continue to evaluate the air quality within the county and may implement one or more of the following measures under consideration.

			Proposed	Geographic area and/or
Measure under	Detailed description of measure	Current assessment of	date for	local government
consideration		emission reductions	implementation	
Air Quality	An Ozone Action Coordinator has been named.	Directionally Sound	March 2003	County wide
Contact	Douglas Page, Ozone Coordinator 843-423-8234			
Fleet	Future purchase of vehicles with highest emission	Directionally Sound	April 2005	County wide
Management	standards	·		
Fuels	Use of alternative fuels whenever possible	Directionally Sound	April 2005	County-wide
Reduce VMT	Eliminate travel by county vehicle whenever possible	Directionally Sound	April 2005	County-wide
Re-fueling	"No-Topping Off" policy for county vehicles	Directionally Sound	April 2005	County-wide
Engagy	Cook to moduce enemy use in county buildings	Directionally Sound	April 2005	County wide
Energy Consumption	Seek to reduce energy use in county buildings	Directionally Sound	April 2003	County-wide
Lawn	Rescheduling of mowing times whenever possible	Directionally Sound	April 2005	County-wide
Maintenance				
Idling	Implement policy reducing idling time for county vehicles	Directionally Sound	April 2005	County-wide
	venicles			
Education	Distribute ozone education brochures, periodic public	Directionally Sound	April 2005	County-wide
	awareness advertisements will be issued			
Open burning	Code enforcement of illegal burning laws	Directionally Sound	April 2005	County-wide

Marlboro County Early Action Plan for the 8-Hour Ozone Standard

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, nobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Attachment 1

Marlboro County - Early Action Compact

List of Emission Reduction Strategies

According to the latest 8-hour ozone monitoring data, Marlboro County should remain attainment for the 8-hour ozone standard. However, in an effort to assist other areas in South Carolina and in the interest of public health and the environment, in December 2002, Marlboro County agreed to participate in the 8-hour ozone early action process. Therefore, based on stakeholder consultation and taking into consideration resource and political constraints, the following emission reduction strategies remain under consideration. Marlboro County will continue to evaluate the air quality within the county and may implement one or more of the following measures under consideration.

Measure under consideration	Detailed description of measure	Current assessment of emission reductions	Proposed date for implementation	Geographic area and/or local government
Air Quality Contact	One person, Gray Bostick, has been identified as the Air Quality Contact. At a minimum, Mr. Bostick will be responsible for ozone education/outreach and dissemination of ozone forecast.	Directionally sound	March 2003	County wide
Support state-wide efforts	Marlboro County will support the efforts of SC DHEC regarding state-wide emission reduction strategies.	Directionally sound	Ongoing	County wide
Fleet management	Marlboro County will consider alternative fueled and hybrid vehicles in the replacement of county fleet vehicles when appropriate.	Directionally sound	Fiscal Year 2003-2004	County wide
County Bid Proposal Process	Marlboro County will give preference to companies that use environmentally "friendly" equipment on county projects.	Directionally sound	Fiscal Year 2003-2004	County wide
Education	Marlboro County will work with the local school district to encourage the use of the "Action for a Cleaner Tomorrow" curriculum	Directionally sound	School Year 2004-2005	County wide
Corporate cooperation	Marlboro County will seek to create partnerships with local businesses and industries in an effort to increase awareness of air quality concerns.	Directionally sound	Ongoing	County wide
Corporate sponsorships	Marlboro County will encourage local businesses and industries to provide financial support to those striving for improved air quality.	Directionally sound	Ongoing	County wide

Santee Lynches Area

Local Early Action Plans

March 2004





CLARENDON COUNTY OFFICE OF THE COUNTY ENGINEER

Robert M. Blackmon, P.E. County Engineer P.O. Box 1250 Manning, South Carolina 29102 Phone: 803-435-2105 FAX: 803-435-2208

9 March 2004

Mr. Henry Phillips Bureau of Air Quality, SCDHEC 2600 Bull Street Columbia, SC 29201

Re: Eight Hour Ground Level Ozone Abatement Plan

Clarendon County

Dear Mr. Phillips:

Please find enclosed a copy of the Early Action Plan for Clarendon County for the abatement of ground level ozone. The plan was adopted as the recommended policy of Clarendon County by the County Council in open session, 8 March 2004, with Mr. Dwight L. Stewart, Jr., Chairman, presiding. This plan is being transmitted to you, as representative of the South Carolina Department of Health and Environmental Control, for further submission to the Environmental Protection Agency, Region IV, as an element of the Early Action State Implementation Plan.

The County will continue with the development and implementation under the Plan to establish strategies by 1 April 2005. Semi-annual, or more frequent, reporting on progress will be made to the Department toward that date.

Please contact me if there are any questions concerning this matter. Thank you for your attention.

Sincerely,

Robert M. Blackmon, P.E. County Engineer

E-MAIL <u>clarendonengineer@sc.rr.com</u>

County of Clarendon Eight Hour Average Ground Level Ozone Management and Abatement Program

Prepared by

Robert M. Blackmon, P.E. County Engineer

5 March 2004

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1. Introduction

While ozone is known to be a helpful and protective compound in the upper atmosphere, the harmful effects of ozone are realized at ground level. The purpose of this document is to outline the local program needed to address the levels of ozone at ground level.

a. Legislative Mandate

In an effort to protect the health of the public, the Environmental Protection Agency, as directed under the United States Clean Air Act amendments, has reexamined the statutory requirements for attainment of air quality with respect to ozone. Previous attainment levels have been based on a one hour ground level average. New standards address the ground level value based on an eight hour average. This new value will have a more pronounced impact on areas previously in attainment for ozone, causing them to fall into non-attainment of the National Ambient Air Quality Standards.

b. Establishment of Local Programs

The timing for implementation of the new standard will provide a potential advantage in that areas subject to non-attainment, being presently in attainment, can be made to regulate or otherwise control ozone levels before the new standard is implemented. To accomplish this regulation, county governments are proceeding in a cooperative manner with the primacy agency, the South Carolina Department of Health and Environmental Control (hereinafter, the Department), to establish local programs to reduce ozone levels so that attainment is achieved prior to the implementation of the new standard. The participation in this action is voluntary; however, the potential penalties for non-attainment make this desirable. Clarendon County, with forty-four other counties in South Carolina, has agreed to establish such a program.

2. Ozone as an Air Pollutant

a. Significance of Ozone in the Atmosphere

Ozone surrounds the Earth where it attenuates ultra-violet light waves. Light waves at these energies have been linked to the incidence of skin cancer in humans and other lesser effects manifested by ultra-violet waves acting as ionizing radiation. At ground levels, however, the presence of ozone leads to stressful conditions in the human respiratory tract and may affect, or increase, pulmonary disease symptoms. Receptors of ozone at ground level react to the oxidant character of ozone similarly to oxidizers such as chlorine or bromine.

b. Sources of Ozone at Ground Level

Ozone is produced by reactions of volatile organic chemicals or oxides of nitrogen with elemental oxygen. Organics are available from a wide range of sources. Volatile organics may emanate from industrial releases as well as fuel product vapors escaping during fuel transfer operations. Oxides of nitrogen occur in fossil fuel combustion and open burning. Low efficiency combustion can likewise release volatile compounds. While the reaction cannot be regulated, the presence of precursor reactants can. Such is the guide for development of a local control plan.

3. Current Conditions in the County

a. Incidence of Health Effects

1. County Health Officials

In conversation with the County Nursing Supervisor for the Department, the incidence and trends in pulmonary health were discussed. Currently, specific pulmonary health problems have not been recognized as aggravated specifically by levels of ozone.

2. Air Quality Bureau District Representative

In discussion with the Department's Air Quality Bureau representative, no indication was made that Clarendon County is in jeopardy of slipping into non-attainment. Non-attainment would include potential loss of Federal Highway funds and other Federal funds unless acceptable abatement plans and the necessary local legislation are in place with an appropriate schedule of compliance to be established and followed. A coincidental effect is an increase in the scrutiny applied to new air emission permits for industrial concerns.

b. Development and Air Pollution

1. Rural Areas

Clarendon County is composed largely of rural and agrarian areas. Today, the agricultural lands are finding more usage as forest lands for pulp and lumber trees. An increasing presence of large animal impoundments has also been noted. Other areas in the rural setting are composed largely of swamp land which provides some logging interests, hunting lands, and otherwise lands not disposed to popular development.

The routine compliment of farm products is used where cotton, tobacco, and grains are grown. Farm implements generally employ diesel power for planting, treatment, and harvesting. A common practice in the farming community is to burn field stubble over large areas. Controlled burns of forest management are not common today. Except during air inversions, it is typical that any fumes, smoke, or vapors are widely dispersed and quickly dissipated.

2. Municipal and Transportation

Clarendon County has three primary municipal areas: Turbeville, Manning, and Summerton. There are other smaller communities but none exhibit the same municipal character. Each of these municipalities is characterized by the intersection of major public highways carrying large numbers of vehicles in private and commercial service. The largest of these, Manning, lies at the intersection of I-95 and Highway 261. This represents a primary interstate north-south route and a primary route component from Columbia to Charleston, Georgetown, and Myrtle Beach. Along Highway 261, a large percentage of traffic is not local. It is typical that both gasoline and diesel vehicles in large numbers move directly through the town as no bypass roads exist. Traffic from I-95 runs approximately three miles west of Manning, north and south. It is reasonable to believe the environment becomes more stressful with respect to auto emissions and air quality in these settings, especially during air inversions. However, no known effects have been in evidence by demonstration of health officials.

3. Industrial Development

Clarendon County has enjoyed constant, though limited industrial growth. The nature of industry is oriented toward assembly and fabrication from forged parts. Only limited chemical treatments or coatings are used. There are no industries that are wet chemical process based. Fossil fuel (heating oil, coal or wood waste) heating systems are utilized to supply power in a number of cases.

4. Geographic Aspects

The County is located on the western edge of the Coastal Plain. This is characterized by flat, wet lands mixed with drier sand or clay type soils with heavy vegetation. Having the absence of deep, pronounced valleys, winds provide for swift dissipation of air pollutants. As one moves away from the population centers, sources also are more dispersed geographically. One might reason that the Santee River valley is a significant feature. However, Lake Marion is large enough to influence convective air currents during times of concern which can dissipate ozone accumulation at ground level.

5. Prospective Changes

Clarendon County continues to grow as a retirement community, residential area and recreational area in the vicinity of Lake Marion. Residential growth in other parts of the County has likewise been noted. With the current economic setting, industrial growth is continuing slowly.

4. Local Control Measures

a. Efforts by Municipal and County Government

Municipal and county governments maintain fleets of vehicles to provide public services. This is probably the largest source of precursor materials which may be controlled. Controls may take the form of:

- i. Seeking replacement vehicles with better combustion efficiency.
- ii. Scheduling maintenance to keep existing fleet vehicles in good running order and running efficiently.
- iii. Providing employees with information which would increase vehicle efficiency by adjusting driving habits.
- iv. Examining the nature of fuels used for cleaner burning.
- v. Encouraging carpooling on the job where tasks overlap.

b. Efforts by Developers and Agriculture

Developers and agronomists have similar activities relative to ozone controls. Land clearing and disposal of waste materials are related to both. In order to favorably influence ozone precursor production the following may be employed:

- i. Disposing of waste building materials at an appropriate landfill rather burning materials at the building site.
- ii. Conducting open burning for land clearing on days when atmospheric conditions are favorable for dispersion of smoke and fumes.
- iii. Disposing of land clearing waste in an appropriate landfill where practical.
- iv. Burning of field stubble, toppings from crop trees, and control burns during favorable atmospheric conditions.

c. Efforts Relating to Transportation

In an overall approach to transportation, it is believed that there are limited means to affect the transient vehicles in the County. A good approach otherwise is to encourage the participation of County residents by encouraging themes similar to those of the governmental sector.

d. Education and Personal Efforts

The most important aspects of the ozone reduction actions in the County are those of education. It is held that widespread knowledge of the ozone problem is limited. Therefore, all citizens should be made aware of the problem and of actions available to citizens to assist the community. These may take the form of:

- i. News articles in local newspapers centered on the need for continued compliance with the ambient air standards.
- ii. Encouraging schools to incorporate air pollution, its effects, and its solutions into science curricula at the middle and high school levels.
- iii. Providing information through county agencies such as the NRCS and Clemson University Extension.
- iv. Posting information encouraging the public to efficiently operate motor vehicles and maintain them in good condition as a service to the community and themselves. Such a notice might even be posted in service stations to be noticeable when individuals frequent the establishment.

e. Local Authority

The County will, in order to act as an official source of information, designate a person or office to follow air quality information. This includes information issued by the Bureau of Air Quality regarding ozone levels, air alerts, burning bans and the like. Much information of this nature is available over the Internet from the Department. This official can also act as a notification point for residents to report air quality problems. Using this information, compliance with county control measures can be tracked.

5. Cooperative Efforts with SCDHEC

a. Air Quality Modeling

The South Carolina Department of Health And Environmental Control is undertaking the administration of the program through agreements with the Environmental Protection agency. The Department is also undertaking state air quality modeling to predict current and future trends in ozone levels.

b. Advancement of Local Plans with State Directions

The Department, through its administration of the air quality program, will review the submitted plans and guide regulated groups toward program development capable of meeting the ozone requirements of 2007. The Department also acts as a buffer between the USEPA and these groups. By filling this position, the Department is able to tailor the US law to the needs of the state and provide necessary assistance.

c. Routine Reviews

The SCDHEC Bureau of Air Quality continues to process permits for industrial ambient air discharges. In light of the revision of the Air Quality laws and regulations more attention will be give to discharge of materials which could affect local ozone concentrations in addition of the normal range of reviews.

6. Conclusions

a. Implementation Practices

In order to comply with the needs of the coming regulations, the State of South Carolina has arranged this method of maintaining, or achieving compliance with the future US regulatory requirements. This plan and report is offered to demonstrate that no immediate ozone non-attainment is expected in Clarendon County. However, this does not guarantee that inaction will be adequate to maintain this condition. Therefore, it is recommended that political bodies in the county review these recommendations and work to implement as many as feasible prior to the target date. To proceed this way is not only a benefit to the community but a means of defending the County's freedom from the yoke of unnecessary regulation. It is also a means of self defense against problems which may impinge on the county through fallout from adjacent counties.

b. Implementation Schedule

The County has until 2007 to fully implement an acceptable program for ozone reduction. The Department has established various milestones toward this goal. A proposed schedule of compliance is provided in the Appendix along with comments regarding certain current County Council actions relating to the program.

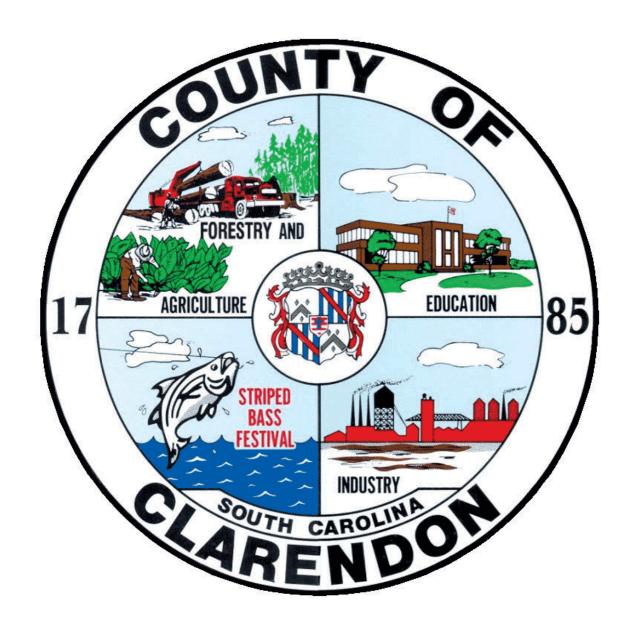
7. Appendix

- 1. Map of Areas Potentially in Non-Compliance by Current Analysis
- 2. South Carolina's Early Action Plan for the Eight Hour Ozone Standard Fact Sheet, August 2002
- 3. South Carolina's Compliance with the National 8-Hour Ozone Standard and Recommended Action Steps to Attain and Maintain Compliance with this Standard, 31 March 2003, SCDHEC
- 4. South Carolina's Eight Hour Early Action Ozone Compact, 12 December 2002
- 5. South Carolina Department of Health and Environmental Control Early Action State Plan Implementation Plan Attachment 3
- 6. a. Area Map showing Major Roadways
 - b. Manning Vicinity Map
- 7. Pertinent Pages from USEPA and SCDHEC Publications Concerning Air Pollution
 - a. Asthma in Clarendon County, May 2002, by SCDHEC
 - b. Ozone and Your Health, September 1999, by USEPA
 - c. Regional Approaches to Improving Air quality, May 1997, by USEPA
 - d. Smog Who Does It Hurt? What You Need to know about Ozone and Your Health, July 1999, by USEPA
- 8. Proposed Schedule of Compliance
 - 1. Investigation of County owned vehicle inventory Development of policies for operation and maintenance
 - Investigate School District vehicle inventory
 Develop policies for operation and maintenance
 Investigate science curricula at Middle and High School levels
 Develop air pollution components for school curricula
 Negotiate Memorandum of Agreement with School districts
 - 3. Establish local air quality information contact Develop public information outlets

- 4. Develop policies for open burning
 Develop policies for combustion vehicle operation
- 5. Submit policy information as addend a to final Early Action Plan submittal
- 6. Make semi-annual report to the Bureau of Air Quality regarding progress of program development with attention toward 1 April 2004 implementation date.

9. Involvement of Clarendon County

The overall purpose of the early action plan within Clarendon County is to look forward with caution to the possibility of coming into noncompliance with the National Ambient Air Quality Standards. At this time, there is no information to suggest that noncompliance is imminent. However, failure to plan to a reasonable degree may prove inconvenient at a future date. On 8 March 2004, the County Council adopted this plan as the recommended policy toward ozone abatement. The Council will be kept apprized of the plan development and invited to discuss or sanction elements or all the material in the plan.



EIGHT HOUR AVERAGE GROUND LEVEL OZONE MANAGEMENT AND ABATEMENT PLAN

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Attachment 1 List of Emission Reduction Strategies Kershaw County

According to the latest 8-hour ozone monitoring data, Kershaw County should remain attainment for the 8-hour ozone standard. However, in an effort to assist other areas in South Carolina and in the interest of public health and the environment, in December 2002, Kershaw County agreed to participate in the 8-hour ozone early action process. Therefore, based on stakeholder consultation and taking into consideration resource and political constraints, the following emission reduction strategies remain under consideration. Kershaw County will continue to evaluate the air quality within the county and may implement one or more of the following measures under consideration.

Measure under consideration	Detailed description of measure	Current assessment of emission reductions	Proposed date for implementation	Geographic area and/or local government
Air Quality Contact	One person will be identified as the air quality contact. At a minimum, this contact will be responsible for ozone education/outreach and dissemination of ozone forecast.	Directionally sound	March 2003	County Wide
Support Statewide Efforts	Kershaw County will support the efforts of SC DHEC regarding state-wide emission reduction strategies.			County Wide
Community Awareness and Education	Enhancing ozone awareness will be a vital part of Kershaw County's EAP. A/E will include public speaking, distribution of educational materials, and increased media alerts concerning ozone and clean air awareness.	Directionally sound	June 2003	County Wide
Alternative Fuel Use	Plan for the use of alternative fuels where possible.	Directionally sound	July 2004	County Government
Teleconferencing	Encourage the use of teleconferencing, and provide teleconferencing facilities and technologies.	Directionally sound	January 2004	County Government
Media	Utilize local media for education/outreach activities, ozone forecast, PSA's, etc.	Directionally sound	January 2004	County Wide
Fleet Scrappage	Implement a fleet scrappage or retirement program.	Directionally sound	Existing	County Government

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Attachment 1

Early Action Compact Milestone List of Emission Reduction Strategies Under Consideration Lee County

According to the latest 8-hour ozone monitoring data, Lee County should remain attainment for the 8-hour ozone standard. However, in an effort to assist other areas in South Carolina and in the interest of public health and the environment, in December 2002, Lee County agreed to participate in the 8-hour ozone early action process. Therefore, based on stakeholder consultation and taking into consideration resource and political constraints, the following emission reduction strategies remain under consideration. Lee County will continue to evaluate the air quality within the county and may implement one or more of the following measures under consideration.

Measure under consideration	Detailed description of measure	Current assessment of emission reductions	Proposed date for implementation	Geographic area and/or local government
Air Quality Contact	One person will be identified as the Air Quality Contact. At a minimum, this contact will be responsible for ozone education/outreach and dissemination of ozone forecast.	Directionally Sound	March 2003	County wide
Support state- wide efforts	Lee County will support the efforts of SC DHEC regarding state-wide emission reduction strategies.	Directionally Sound	March 2003	County wide
Grass Cutting	Lee County Public Works will delay cutting grass till 6 p.m. on an Ozone Action Day.	Directionally Sound	May 2004	County wide
Education	Lee County will work with school Districts to educate the children about ozone reduction	Directionally Sound	September 2004	County wide
Ozone reduction	Lee County is actively searching for new and better ways to reduce ozone emission that will be suitable for Lee County	Directionally Sound	October 2003	County wide

March 11, 2004

Mr. Henry Phillips SCDHEC Bureau of Air Quality 2600 Bull Street Columbia, SC 29201

Dear Mr. Phillips:

The attached Early Action Plan for Sumter County is hereby submitted to the South Carolina Department of Health and Environmental Control for submittal to the Environmental Protection Agency, Region 4 office and inclusion in the Early Action State Implementation Plan.

As required by the South Carolina 8-hour Ozone Early Action Compact, Sumter County will continue to submit progress reports every six months documenting progress on implementing emission reduction strategies by April 1, 2005.

If you have any questions, please contact William T. Noonan, Sumter County Administrator at (803) 436-2102 or e-mail at bnoonan@sumtercountysc.org.

Sincerely,

William T. Noonan County Administrator

Dpm

Enclosures

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Attachment 1

Early Action Compact Milestone - List of Emission Reduction Strategies - Sumter County

According to the latest 8-hour ozone monitoring data, Sumter County should remain attainment for the 8-hour ozone standard. However, in an effort to assist other areas in South Carolina and in the interest of public health and the environment, in December 2002, Sumter County agreed to participate in the 8-hour ozone early action process. Therefore, based on stakeholder consultation and taking into consideration resource and political constraints, the following emission reduction strategies remain under consideration. Sumter County will continue to evaluate the air quality within the county and may implement one or more of the following measures under consideration.

Measure under consideration	Detailed description of measure	Current assessment of emission reductions	Proposed date for imple mentation	Geographic area and/or local government
Air Quality Contact	County staff person responsible for air quality education/outreach and dissemination of ozone forecast.	Directionally sound	March 2004	County wide
Support state-wide emission reduction efforts	County will offer support to DHEC for statewide emission reduction efforts such as open burning, and BACT Directionally sou		Upon implementation by state	County wide
Fleet management	Sumter County and City governments will consider purchase of alternative fueled or more fuel efficient vehicles when buying replacement Directionally sound Not available.		Not available	County wide
Alternative fuels	Sumter County and City governments will seek the latest information on low emission fuels for use in fleet vehicles	County and City governments will seek the latest information		County wise
Education	Air Quality Contact will promote use of "Action for a Cleaner Tomorrow" curriculum with Districts 17 and 2	Directionally sound	March 2004	County wide
Education	Air Quality Contact will develop list of speakers to make presentation on ozone reduction strategies	Directionally sound	April 2004	County wise
Idle time reduction	County will develop education program to reduce idling time of fleet vehicles	Directionally sound	April 2004	County wide
Varied maintenance hours	Cty. Dept. of Public Works will schedule maintenance activities to avoid peak time emissions during ozone alerts	· · · · · · · · · · · · · · · · · · ·		County wide
Tree ordinance	Propose changes to current tree ordinance to protect existing trees in new developments	Directionally sound	Not available	County wide
Ozone alert notification	Develop system to notify county and city government agencies of ozone alert days and encourage implementation of strategies	Directionally sound	April 2004	County wide
Tree Planting	Sumter Soil and Water Conservation District will provide technical assistance in planting/replanting 500 acres in trees per year	Directionally sound	On going	County wide
Development model	Sumter Cty. Development Board will continue to support mixed use developments	Directionally sound	On going	County wide
Alternative transportation modes	Support construction of pedestrian and bicycle paths when new roadways are built or improved	Directionally sound	April 2004	County wide
Tree Planting	Continue activities necessary to remain a certified "Tree City"	Directionally sound	On going	City wide

Upper Savannah Area

Local Early Action Plans

March 2004



Background

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The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly

prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and drycleaners (emit VOCs). Mobile sources are divided into two categories, on-road and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Early Action Compact Milestone – March, 2004 List of Emission Reduction Strategies Under Consideration

Abbeville County

Based on stakeholder consultation and taking into consideration resource and political constraints, the following control measures under consideration can be reasonably implemented. It is anticipated these measures under consideration will assist Abbeville County in achieving and/or maintaining the 8-hour ozone standard by 2007 and beyond.

Measure under consideration	Detailed description of measure	Current assessment of emission reductions	Proposed date for implementation	Geographic area and/or local government
Work with local media for public awareness	?? PSA's to local newspapers, radio and television stations		On-going See Attached Article	Countywide
Open burning on high ozone days	?? Solicit cooperation of State and Federal		On-going	Countywide
Mowing	?? Encourage County, municipalities and citizens not to mow during high ozone days		On-going	Countywide
Vehicles	 ?? Encourage County and municipalities to practice not idling government vehicles when practical. ?? Fill automobiles with gave after 6 p.m. when possible ?? Consider alternate schedule for County and Municipal Services ?? County and Municipalities will explore purchasing more fuel efficient and low emission level vehicles when replacements are needed when economically feasible. 		Ongoing	Countywide
Education	?? Work cooperatively with School District		Ongoing	Countywide

Background

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Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

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Emission Reduction Strategies

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Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Early Action Compact Milestone – December 2003 List of Emission Reduction Strategies under Consideration

Edgefield County

According to the latest 8-hour ozone monitoring data, Edgefield County should remain attainment for the 8-hour ozone standard. However, in an effort to assist other areas in South Carolina and in the interest of public health and the environment, in December 2002, Edgefield County agreed to participate in the 8-hour ozone early action process. Therefore, based on stakeholder consultation and taking into consideration resource and political constraints, the following emission reduction strategies remain under consideration. Edgefield County will continue to evaluate the air quality within the county and may implement one or more of the following measures under consideration.

Measure under consideration	Detailed description of measure	Current assessment of emission reductions	Proposed date for implementation	Geographic area and/or local government
Air Quality Contact	Guy Mueller: 129 Courthouse Square Suite 104 Edgefield S.C. 29824 803-637-4073 Email: gmueller@edgefieldcounty.sc.gov	Working with BP Amoco Oil (Sweetwater Terminal) Directionally sound	Ongoing	County Wide
Support State-wide efforts	Edgefield County will support the efforts of SC DHEC regarding state-wide	Directionally sound	Ongoing	County Wide
Edgefield County Road Maintenance Department	Edgefield County Road Maintenance Dept. will consider clean air goals in purchasing of new equipment	Directionally sound	Ongoing	County Wide
Edgefield County Fleet	Edgefield County Fleet will consider air Quality goals on the purchase of fleet vehicles	Directionally sound	Ongoing	County Wide
Edgefield County Building & Planning Department	Edgefield County Building & Planning Dept. well use energy efficient strategies in inspections of residential dwellings and commercial buildings	Directionally Sound	Ongoing	County Wide

Greenwood County Early Action Plan for the 8-Hour Ozone Standard

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

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March 2004 1

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Ozone Health Effects

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Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, on-road and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

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March 2004 2

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Early Action Compact Milestone June 2003 Progress Report

Greenwood County, South Carolina

Overview

Greenwood County, the City of Greenwood, and the Towns of Ninety Six and Ware Shoals began a process in August of 2002 to develop an Energy Element to include within their multi-jurisdictional Comprehensive Plan. The comprehensive plan is the principal policy document for guiding future conservation and development of the County and its communities. Its purpose is to bring a deliberate, overall direction to the day-to-day decisions of the governing bodies, its commissions and staff. The plan: organizes the desires of the public in regard to the physical, social, economic, and environmental character of Greenwood County; defines a realistic vision of what the County and its communities intend to be twenty years from now; and charts the course of conservation and development that will determine the future character of our communities and the nature of the environment.

Energy conservation measures play an integral role in reducing energy usage and increased cost-saving measures. Because energy use can adversely affect air quality and other natural resources, energy issues are also environmental quality issues. An effective energy conservation plan can help reduce air pollution, improve water quality, and protect prime agricultural lands and wildlife habitats.

The incorporation of an ozone management plan within the Energy Element of the Comprehensive Plan provides the linkages between ozone reduction and other energy conservation measures as well as policy issues concerning community facilities, economics and land use patterns. Furthermore, the relationships between these issues are much easier to identify within a comprehensive document which identifies opportunities for us to explore and develops partnerships with other agencies and organizations.

 Document progress in developing stakeholder process, including, for example, roles and responsibilities of various stakeholder groups, list of stakeholders, brief summary of stakeholder meetings, stakeholder involvement in development of initial list of control measures, etc.

In January, the Greenwood City/County Energy Element Committee was formed and held their first meeting. A listing of individuals and agencies is included in Appendix A which is attached for your review. They have since held a total of 7 meetings; summary minutes are included in Appendix B. On May 22, the committee focused on ozone reduction strategies which are outlined within the *List of Emission Reduction Strategies Under Consideration*. The intent is to finalize the energy element document by August 2003 and forward the element to the Planning Commission and City and County Councils for adoption. The role

of the Energy Element Committee is to review trends in energy usage, identify opportunities for increased participation and develop goals and objectives for implementation. Local media coverage has been limited to identification of the process and encouragement of those interested parties to participate in the development of the element. The committee is reviewing a number of goals and objectives and intends to become more involved with the media once the document is finalized and ready for presentation to various governmental bodies.

2. Report progress on evaluating and selecting emission reduction measures for the local control strategy.

See June 16, 2003 submittal *List of Emission Reduction Strategies Under Consideration* in Appendix C.

3. Describe public outreach activities (press coverage, public presentations, websites, *etc.*)

The Greenwood County Council reviewed the 8-Hour Ozone Early Action Compact on December 17, 2002, discussed the agreement and voted to approve the motion to work on this project. Notification was given to the *Index Journal* (local newspaper), WYFF (local television) and WCRS FM (local radio station). The *Index Journal* was at this meeting and covered this item within their report on County Council actions in the December 18 edition. No individuals in attendance spoke on this issue. The minutes from this meeting are included in Appendix D.

Greenwood County will be holding public hearings on the Energy Element before the Greenwood City/County Planning Commission and Greenwood County Council, Greenwood City Council and the Town Councils of Ninety Six and Ware Shoals. Press coverage of these items will be encouraged to review the draft as well as incorporate additional participants in the drafting of the document.

4. Provide update on modeling/technical planning activities.

These activities are the responsibility of the State of South Carolina. Refer to the June 2003 Progress Report submitted by the South Carolina Department of Health and Environmental Control, Bureau of Air Quality.

Appendix A:

Energy Element Membership

Energy Element Committee

Peter Arnoti, Greenwood Economic Alliance

Neal Asman, Self Regional Healthcare

Tommy Balchin, Self Regional Healthcare

Eddie Bartless, Greenwood City/County Planning Commission

Len Bornemann, Greenwood Area Chamber of Commerce

Paula Brooks, Uptown Greenwood Development

Steve Brown, City of Greenwood

Lyda Carroll, The Museum

Richard Farmer, Greenwood County School District 50

John Geer, Duke Power

Rick Green, Upper Savannah Council of Governments

Scott Harris, Town of Ninety Six

Jim Kier, Greenwood County

Dr. Dan Powell, Greenwood County School District 52

Ronnie Powell, City/County Building Official

Steve Reeves, Greenwood CPW

George Rush, Town of Ware Shoals

Donna Sightler, Greenwood Recycling

Larry Smith, Greenwood City/County Engineer

Fay Sprouse, Greenwood County School District 51

Thomas Suttles, Lander University

Jimmy Walters, SC Forestry Commission

Craig White, Fuji Photofilm

Dale Wilson, Piedmont Technical College

Phyllis Zuehlke, Greenwood Parks Commission

Appendix B:

Energy Element Summary Minutes

Energy Element Committee Summary Minutes - January 30, 2003

The Energy Element Committee of the Greenwood City/County Comprehensive Plan met on January 30, 2003 at 10:00 a.m. in Room 104 of the Park Plaza Office Building. Those members in attendance included Tommy Balchin, Len Bornemann, Steven Brown, Rick Farmer, Rick Green, Scott Harris, Blake Lanford, Phil Lindler, Steve Reeves, Donna Sightler, and Thomas Suttles.

The meeting began with a welcome to and introduction of the members of the committee. Mr. Brown recognized that the City/County Building Inspector was not listed.

The next item discussed included the purpose of the committee. Mr. Lindler detailed that this committee was an advisory group to the Greenwood City/County Planning Commission and that the main goal of the group was to complete the energy element of the comprehensive plan. He explained what the comprehensive plan was and described the other seven elements of the plan. A brief explanation was given of the grant process in which funds were made available to prepare the document.

The group reviewed a proposed mission statement that describes the purpose in the committee and the tasks to be produced.

There was discussion as to what specific types of energy items would be mentioned in the element. Mr. Lindler stated that if the committee felt that an energy component was important, it should be mentioned. He also told the group that an overall energy assessment would be ready by the next meeting for everyone's review. This would provide everyone with some background about energy use within the Greenwood County area.

The group moved to hold their next meeting on February 20th at 10:00 a.m. in Room 104 of the Park Plaza office building.

The group adjourned at 10:45 a.m.

Energy Element Committee Summary Minutes – February 20, 2003

The Energy Element Committee of the Greenwood City/County Comprehensive Plan met on February 20, 2003 at 10:00 a.m. in Room 104 of the Park Plaza Office Building. Those members in attendance included Tommy Balchin, Paula Brooks, Lyda Carroll, Rick Farmer, Rick Green, Scott Harris, Blake Lanford, Phil Lindler, Dan Powell, Donna Sightler, and Thomas Suttles, Dale Wilson.

The meeting began with a welcome to and introduction of the members of the committee. The committee reviewed the minutes from the last meeting. No changes were noted. The committee also reviewed the mission statement that was proposed at the last meeting. No comments were received.

Phil Lindler reviewed the Proposed Task Sheet with the committee. The task sheet identified the items to be completed by the committee. Mr. Lindler expressed that the intent of the task sheet was to show the process that the group would employ to complete the element.

Phil Lindler presented the initial findings of the data collected to date. The presentation identified our local energy usage, what types of energy are utilized, who supplies the energy and where the energy that is utilized is produced. Tommy Balchin noted that there is a refinery located north of the City of North Augusta.

The committee then discussed various ways that energy conservation can be encouraged at the local level. Phil Lindler identified the differences between the types of renewable and nonrenewable energy. Donna Sightler mentioned that Greenwood County was exploring the ability to generate energy from methane at the landfill and that the consultant working on the project would have a report within the next few months. Tommy Balchin, Thomas Suttles and Dale Wilson identified projects that Self Regional Healthcare, Lander University and Piedmont Technical College, respectively, have worked on to reduce their energy needs and reduce costs. Past relationships with the SC Energy Office were also noted. Ms. Sightler also mentioned the "Energy to Learn" program from the SC Energy Office that serves to educate South Carolinians about energy matters. Mr. Lindler noted some of the efforts that local governments are working on to reduce vehicle trips such as clustering of housing and the Upper Savannah Council of Governments' work on mass transit. Mr. Wilson questioned what amount of energy usage is required for water and sewer in Greenwood County.

The group moved to hold their next meeting on March 13th at 10:00 a.m. in Room 104 of the Park Plaza office building.

The group adjourned at 11:00 a.m.

Energy Element Committee Summary Minutes - March 13, 2003

The Energy Element Committee of the Greenwood City/County Comprehensive Plan met on March 13, 2003 at 10:00 a.m. in Room 104 of the Park Plaza Office Building. Those members in attendance included Tommy Balchin, Len Bornemann, Paula Brooks, Steven Brown, Lyda Carroll, Rick Farmer, Rick Green, Scott Harris, Blake Lanford, Phil Lindler, Donna Sightler, and Thomas Suttles.

The meeting began with a welcome to committee. The committee reviewed the minutes from the last meeting. No changes were noted. The committee also reviewed the mission statement that was proposed at the last meeting. No comments were received.

Phil Lindler provided those in attendance with a copy of the draft Energy Assessment. Mr. Lindler briefly identified each section of the document. There was discussion on various items within the document including providers of other fuels, percentage of transportation energy consumption for the county versus the state, notations for the Towns of Ninety Six and Ware Shoals, additional information to be included on Self Regional Healthcare, identification of energy consumption for state agencies, and per capita data. Len Bornemann stated that National Textiles uses woodchips as a way to generate steam. Mr. Lindler requested that the members review the document and note any changes, deletions or additions to the draft for inclusion within the overall Energy Element.

Phil Lindler made a presentation on energy-related topics in the 1999 Comprehensive Plan. He identified items previously mentioned in the document that could be defined as relevant energy information. Also included were the objectives identified in the plan that had a direct impact on the topics for energy conservation. Rick Green gave a brief explanation on the Upper Savannah Land Trust and Donna Sightler defined a "Pay-as-You-Throw" System for solid waste collection. There was also general discussion of some of the additional topics.

The committee then discussed the absence of the energy agencies. Len Bornemann suggested that staff contact Mr. Steve West with Duke Power. Scott Harris also noted that Mr. Britton with Duke Power might be interested in being a representative on the committee.

The group moved to hold their next meeting on April 3rd at 9:00 a.m. in Room 104 of the Park Plaza office building due to a scheduling conflict during the 10 o'clock hour.

The group adjourned at 11:00 a.m.

Energy Element Committee Summary Minutes - April 24, 2003

The Energy Element Committee of the Greenwood City/County Comprehensive Plan met on April 24, 2003 at 10:00 a.m. in Room 104 of the Park Plaza Office Building. Those members in attendance included Len Bornemann, Paula Brooks, Rick Green, Brenda Holland, Blake Lanford, Phil Lindler, Jeff Meredith, and Thomas Suttles.

The meeting began with a welcome to committee. The committee reviewed the minutes from the last meeting. No changes were noted.

Phil Lindler asked if there were any additional changes to the Energy Assessment. He noted that changes had been received by CPW and Lander University.

The Energy Element Committee discussed energy conservation opportunities that would be utilized as goals and objectives. The committee discussed land use items such as mixed-use development, infill and redevelopment, compact development and clustering, and full utilization of infrastructure. The committee also looked at street and parking design within the transportation sector. The committee made comments and requests for changes within the Summary of Strategies and Approaches for Energy Conservation. These changes included a clarification of home occupations and accessory housing units, noting the need to encourage second story housing in Uptown Greenwood. clarification of brownfields, modify the compact development and clustering section to be more specific and include open space standards. The committee recommended the removal of the full utilization of infrastructure section, add parking area connectivity to the street and parking design section, and remove all objectives that not directly energyrelated. Len Bornemann suggested that those items that are addressed within the proposed zoning ordinance be mentioned and separated so that if the zoning ordinance was to be passed prior to adoption of the element, that these items be taken out of the Energy Element.

The group moved to hold their next meeting on May 8th at 10:00 a.m. in Room 104 of the Park Plaza office building to continue discussion of strategies.

The group adjourned at 11:00 a.m.

Energy Element Committee Summary Minutes - May 8, 2003

The Energy Element Committee of the Greenwood City/County Comprehensive Plan met on May 8, 2003 at 10:00 a.m. in Room 104 of the Park Plaza Office Building. Those members in attendance included Len Bornemann (Greenwood Area Chamber of Commerce), Lyda Carroll (The Museum), Rick Farmer (Greenwood School District 50), Brenda Holland (Piedmont Technical College), Jeff Meredith (Greenwood Commissioners of Public Works), Donna Sightler (Greenwood County Recycling), and Phil Lindler (Greenwood City/County Planning).

The meeting began with a welcome to committee. The committee reviewed the minutes from the last meeting. No changes were noted.

The Energy Element Committee discussed energy conservation opportunities that would be utilized as goals and objectives. The committee reviewed Chapter IV and did not make any changes. The committee then discussed transportation items such as multimodalism and travel alternatives. Members noted the achievements of Upper Savannah Council of Governments towards the study of transit within the region and the teleconferencing facility at Piedmont Technical College. The committee made comments and requests for changes within the Summary of Strategies and Approaches for Energy Conservation. These changes included ways to expanding partnerships with Piedmont Tech in teleconferencing as well as continuation of studies towards assessment of the need for transit systems. The committee also discussed environmental and housing items. Specifically, the topics included urban forestry and landscaping, open space, alternative fuels and recycling. Changes that were noted included changing the phrasing to encourage continued work in these areas and refer to the accomplishments that have been made locally. The staff will work towards modifying this language to be more specific and detail our local accomplishments in energy conservation.

The group moved to hold their next meeting on May 22nd at 10:00 a.m. in Room 104 of the Park Plaza office building to continue discussion of strategies.

The group adjourned at 11:00 a.m.

Energy Element Committee Summary Minutes - May 22, 2003

The Energy Element Committee of the Greenwood City/County Comprehensive Plan met on May 22, 2003 at 10:00 a.m. in Room 104 of the Park Plaza Office Building. Those members in attendance included Stephen Addis (Duke Power), Tommy Balchin (Self Regional Healthcare), Paula Brooks (Uptown Greenwood), Lyda Carroll (The Museum), Rick Green (Upper Savannah Council of Governments), and Phil Lindler (Greenwood City/County Planning).

The meeting began with a welcome to committee. The committee reviewed the minutes from the last meeting. No changes were noted.

The Energy Element Committee discussed ozone issues that related to the 8-hour Ozone and Early Action Compact being coordinated by DHEC. Phil Lindler gave a presentation of how ozone occurs, which areas of South Carolina have exceeded the ozone limits, what the potential sources of volatile organic compounds and oxides of nitrogen are in the Upstate and Lower Savannah regions, and what growing trends in public health can be attributed to increased ozone levels. The committee reviewed a listing of emission reduction strategies compiled from previously discussed energy conservation measures that have ozone reduction implications. Two new areas that were approved by the committee were the development of a Seasonal Ozone Awareness Program (SOAP) and an Ozone Reduction Action Plan (ORAP).

The committee continued discussion on the Summary of Strategies and Approaches for Energy Conservation Table. The committee reviewed housing and community facilities issues. Discussion focused on Duke Energy's energy-efficiency program and ways to promote this program more within Greenwood County. The topic of teleconferencing facilities were again discussed and Capsugel, Fuji, Self Regional Healthcare, Lander University, Upper Savannah Council of Governments and the James Self Genetics Center were all mentioned as other sites that need to be mentioned within the document as potential partners in the community. Lastly, the committee discussed adding a strategy to include studying the need for a ride-sharing program and a review of state legislation for school locations.

The group moved to hold their next meeting on June 5th at 10:00 a.m. in Room 104 of the Park Plaza office building to continue discussion of strategies.

The group adjourned at 11:00 a.m.

Energy Element Committee Summary Minutes – June 5, 2003

The Energy Element Committee of the Greenwood City/County Comprehensive Plan met on June 5, 2003 at 10:00 a.m. in Room 104 of the Park Plaza Office Building. Those members in attendance included Stephen Addis (Duke Power), Tommy Balchin (Self Regional Healthcare), Len Bornemann (Greenwood Area Chamber of Commerce), Lyda Carroll (The Museum), Rick Green (Upper Savannah Council of Governments), Jeff Meredith (Greenwood CPW), Thomas Suttles (Lander University), Jimmy Walters (SC Forestry Commission), Dale Wilson (Piedmont Technical College), Phil Lindler (Greenwood City/County Planning), and Blake Lanford (Greenwood City/County Planning).

The meeting began with a welcome to the committee. The committee reviewed the minutes from the last meeting. No changes were noted.

The committee continued discussion on the Summary of Strategies and Approaches for Energy Conservation Table. The committee reviewed community facilities and economic development issues. Discussion focused on modifying the text to reflect the continuation of our current programs. Len Bornemann and Phil Lindler identified that a number of the listed objectives have either been met or the text modified to reflect the encouragement of the continued work in these areas. Thomas Suttles noted the International Building Code as a positive and negative as it enhances energy efficiency in new construction as well as possibly increase costs for reuse of existing buildings bringing them up to code. There was also discussion of the identification of costs when evaluating the overall energy use of facilities. The topic of state law requirements for public school sites also was mentioned. Len Bornemann identified Self Regional Healthcare as a local example for reuse of existing structures. The Riegal Mill Site in Ware Shoals was also noted.

The group moved to hold their next meeting on June 26th at 10:00 a.m. in Room 104 of the Park Plaza office building to finalize the discussion of strategies.

The group adjourned at 11:00 a.m.

Energy Element Committee Summary Minutes - June 26, 2003

The Energy Element Committee of the Greenwood City/County Comprehensive Plan met on June 26, 2003 at 10:00 a.m. in Room 104 of the Park Plaza Office Building. Those members in attendance included Stephen Addis (Duke Power), Tommy Balchin (Self Regional Healthcare), Len Bornemann (Greenwood Area Chamber of Commerce), Lyda Carroll (The Museum), Rick Green (Upper Savannah Council of Governments), Jeff Meredith (Greenwood CPW), Thomas Suttles (Lander University), Dale Wilson (Piedmont Technical College), and Phil Lindler (Greenwood City/County Planning).

The meeting began with a welcome to the committee. The committee reviewed the minutes from the last meeting. No changes were noted.

The committee continued discussion on the Summary of Strategies and Approaches for Energy Conservation Table. The committee reviewed economic development issues concerning Facilities, Technology and Processes and Regulations and Incentives. Discussion focused on possible partnerships for demonstration projects or education of energy-efficient design principles. Phil Lindler noted a wording change to financial disincentive objective.

The group then reviewed Chapter V. Comments concerning this section included identifying studies on the potential to burn or utilize solid waste as a fuel source for reducing landfill space and increase potential industrial fuel uses, the study of ice storage as a possible cooling alternative and adding additional wording to the geothermal energy section concerning geothermal heat pumps.

The committee reviewed Chapter IV and noted the need for public awareness of the ozone situation. Potential public awareness/education possibilities were discussed.

The group moved to hold their next meeting on July 10th at 10:00 a.m. in Room 104 of the Park Plaza office building to finalize the discussion of Chapter IV and the Strategy Table.

The group adjourned at 11:00 a.m.

Energy Element Committee Summary Minutes – July 31, 2003

The Energy Element Committee of the Greenwood City/County Comprehensive Plan met on June 26, 2003 at 10:00 a.m. in Room 104 of the Park Plaza Office Building. Those members in attendance included Stephen Addis (Duke Power), Lyda Carroll (The Museum), Blake Lanford (Upper Savannah Council of Governments), and Phil Lindler (Greenwood City/County Planning).

The meeting began with a welcome to the committee. The committee reviewed the minutes from the last meeting. No changes were noted.

The committee continued discussion on Chapter VII. The committee reviewed accountable agencies and time frames for each of the remaining strategies. The committee requested that Phil Lindler contact those groups not present at the meeting to get their input on whether they would be willing to serve as the accountable agency or a timeframe as to when they think the strategy could be completed. The chapter will be revised with the information and included within the final draft at the next meeting.

The group moved to hold their final meeting on August 21st at 10:00 a.m. in Room 104 of the Park Plaza office building to finalize the draft of the Energy Element

The group adjourned at 10:45 a.m.

Appendix C:

List of Emission Reduction Strategies Under Consideration

Greenwood County Early Action Compact Milestone - March 2004 List of Emission Reduction Strategies

Emission Reduction Strategy	Description of	Current Assessment of	Date for	Resource Concerns/	Geographic Area
Under Consideration	Implementation Item	Emission Reductions	Implementation	Constraints	and/or Local Gov't
Land Use - Mixed-Use Development					
Goal - "The location of stores, restaurants, offices, schools, recreation a	nd jobs within close proximity of residential"				
	Revise Development Standards to Allow Mixtures of			Local Governments Not Adopting	
Allow Mixed-Use Developments	Land Uses in Zoning Districts	Directionally Sound	April 2004	Proposed Zoning Ordinance	County/City
	Revise Development Standards to Provide			Local Governments Not Adopting	
Develop Incentives for Mixed-Use Developments	Incentives for Mixed-Use Developments	Directionally Sound	April 2004	Proposed Zoning Ordinance	County/City
	Revise Development Standards to Encourage Home			Local Governments Not Adopting	
Encourage Home Occupations	Occupations	Directionally Sound	April 2004	Proposed Zoning Ordinance	County/City
	Revise Development Standards to Encourage			Local Governments Not Adopting	
Encourage Housing in/near Large-Scale Commercial Developments	Housing Near Service Areas	Directionally Sound	April 2004	Proposed Zoning Ordinance	County/City
	Revise Development Standards to Include			Local Governments Not Adopting	
Encourage Incentives for the Inclusion of Pedestrian and Bike Paths	Incentives for Alternative Modes of Transportation	Directionally Sound	April 2004	Proposed Zoning Ordinance	County/City
Benefits to Reduce Ozone					

- Lessens Vehicle Trips
- -- Encourages Alternative Modes of Travel
- -- Promotes Bicycle and Pedestrian Travel that Could Replace 18 to 25% of Vehicle Trips
- -- Reduces Energy Consumption by up to 30% if 1 in 10 trips for Shopping or Personal Business was Made on Foot
- Savings of 50% of Auto-Related Energy can be Realized when New Residential Developments include Higher Density Housing

	Revise Development Standards to Allow Developers			Local Governments Not Adopting	
Allow Compact Development and Clustering	Incentives to Cluster Residential Units Together	Directionally Sound	April 2004	Proposed Zoning Ordinance	County/City
	Revise Development Standards to Provide				
Provide Tax Incentives/Fee Reductions for Compact and Cluster Projects	Reductions in Fees for Cluster Projects	Directionally Sound	April 2004	Public Opposition	County/City
Benefits to Reduce Ozone					

- Shortens Vehicle Trips
- Reduce Summer Air Temperatures by Reduced Impervious Surfaces
- Provides Efficient Use of Public Services in a Small Geographic Area
- Reduces Vehicle Miles Traveled by 25 to 30% when Density is Doubled

Transportation - Street and Parking Desigr

Goal - 1 Tovide Energy-Efficient Standards for Road Design and Layout, Con	istruction recliniques and materials, frame optimi	zation and ranking besign			
		1			
	Develop Sidewalk and Pedestrian Plan Which	1			
Develop Provisions for Safe and Convenient Pedestrian and Bicycle Travel	Outlines Proposed Alternatives to Alternative Travel	Directionally Sound	April 2004		County/City
	Assist SC DOT to Upgrade Traffic Signals for				
Continue to Upgrade Traffic Signal Optimization Measures	Travel Efficiency	Directionally Sound	Ongoing	Lack of Funding	County/City
	Revise Development Standards to Include Design			Local Governments Not Amending	
Evaluate Street Design Standards to Promote Energy Efficiency	Standards that Promote Energy Efficiency	Directionally Sound	May 2004	Local Regulations	County/City
Benefits to Reduce Ozone					

- -- Encourages Alternative Modes of Travel
- Optimizes Travel
- -- Shortens Vehicle Trips by Providing Shorter and More Direct Routes
- Reduces Vehicle Miles Traveled by up to 60% When Traditional Street Networks are Used
- Reduces Vehicle Speeds by Utilizing Appropriate Sizing and Design of Streets
- Reduces Ambient Air Temperatures Through Reduced Impervious Surfaces
- Reduces Traffic Congestion and Fuel Consumption by up to 19%

Transportation - Multi-Modalism

Goal - "Individual Transportation Modes Working Together to Provide Alternatives such as Mass Transit, Rail, Bicycle, or Pedestrian Travel"						
	Revise Development Standards to Encourage			Local Governments Not Adopting		
Encourage Alternative Modes of Transportation in New Developments	Sidewalks, Bike Trails, etc. in Developments	Directionally Sound	April 2004	Proposed Zoning Ordinance	County/City	
	Revise Development Standards to Encourage			Local Governments Not Adopting		
Provide for Pedestrian and Bicycle Paths in New Developments	Sidewalks, Bike Trails, etc. in Developments	Directionally Sound	April 2004	Proposed Zoning Ordinance	County/City	
	Revise Development Standards to Connect					
	Developments Together to Promote Transportation			Local Governments Not Amending		
Encourage New Development to Connect Transportation Facilities Together	Linkages	Directionally Sound	May 2004	Local Regulations	County/City	

- Benefits to Reduce Ozone -- Provides Alternatives to Vehicle Trips
- -- Eliminates up to 3% of all Personal Vehicle Trips and Reduces Fuel Use by More Than 1% if Trips 5 Miles or Less Were Made by Bike or on Foot -- Reduces Total Vehicle Trips From 2 to 5% if 20 to 50% of Trips Less than 1/2 Mile Were Made on Foot or by Bicycle

Emission Reduction Strategy Under Consideration	Description of Implementation Item	Estimate of Emission Reductions (if available)	Date for Implementation	Resource Concerns/ Constraints	Geographic Area
nsportation - Travel Alternatives					
oal - "Reduce Vehicular Traffic and Conserve Energy through the Use of					
ncourage Telecommuting and Home Occupations	Revise Development Standards to Encourage Individuals to Work From Home	Directionally Sound	April 2004	Local Governments Not Adopting Proposed Zoning Ordinance	County/City
evelop Partnerships for the Enhanced Usage of Teleconferencing Facilities	Develop a Feasibility Study for Local Organizations to Develop Teleconferencing Facilities	Directionally Sound	January 2005		Region/County/Cit
nefits to Reduce Ozone	to Develop Teleconferencing Facilities	Directionally Sound	January 2005		Region/County/Cit
leduces One Round Vehicle Trip for Each Day a Worker Telecommutes					
temoves Extended Vehicle Trips for Meetings and Training Held at Local Teleco	onferencing Facilities				
ironmental - Alternative Fuels					
oal - "Reduce Traditional Gasoline and Diesel Fuel Usage Through Alter					
	Develop Public Meetings, Ads, Brochures to				
LANDER AND ED COMMENT	Address the Educational Needs of the Local	6: : " 0 1			D : 10 : 10
ducate the Public on Availability and Benefits of Alternative Fuels	Community	Directionally Sound	Ongoing	Local Funding	Region/County/Ci
romote the Usage of Alternative Fuels by Local Governments and Agencies	Develop an Alternative Fuel Fleet Program that Analyzes and Promotes Fuel Efficiency	Directionally Sound	December 2004		Region/County/C
Torriote the Osage of Alternative Fuels by Local Governments and Agencies	Analyzes and Fromotes Fuel Efficiency	Directionally Sound	December 2004		Region/County/Ci
	Develop a Fuel Efficiency Program that Evaluates				
corporate the Use of Alternative Fuels into Local Government Operations	the Benefits of the Use of Alternative Fuels	Directionally Sound	December 2004		County
nefits to Reduce Ozone					
leduces Impacts to the Environment					
nmunity Facilities - Administration, Policies and Education					
oal - "To Serve as a Community Example Through Management, Procedu					
	Assist City, County and SCHP in the Enforcement of				
ontinue to Enforce Speed Limits	Local Speed Limits	Directionally Sound	Ongoing	Local Funding	County/City
	Develop CECP to Evaluate Energy Conservation	D: # # 0 .	14 0004		0 , 10:
evelop a Comprehensive Energy Conservation Program (CECP)	Programs for Implementation	Directionally Sound	May 2004		County/City
	Develop a Feasibility Study for Local Organizations				
xpand and Promote Teleconferencing Facilities	to Develop Teleconferencing Facilities	Directionally Sound	January 2005		Region/County/C
xpand and i fornote releconferencing radiities	Develop Public Meetings, Ads, Brochures to	Directionally Sound	January 2003		rtegion/county/c
	Address the Educational Needs of the Local				
romote the Use of Alternative Modes of Travel by Employees	Community	Directionally Sound	Ongoing	Local Funding	Region/County/C
nefits to Reduce Ozone					
educes Energy Costs by as Much as 15% Without Affecting the Level of Servi					
educes Energy Waste and Promotes Conservation through Employee Education					
educes Vehicle Trips by Alternative Modes of Travel, Carpooling, Telecommuti	ng, and Teleconferencing				
nmunity Facilities - Site Location					
al - "The Selection of Sites for New Community Facilities Based on Ene			_		
	Develop CECP to Evaluate Energy Conservation				
ocate New Facilities Near Transit, Bicycle and Pedestrian Facilities	Programs for Implementation Develop CECP to Evaluate Energy Conservation	Directionally Sound	May 2004		County/City
ocate New Facilities Near Mixed-Use Developments	Programs for Implementation	Directionally Sound	May 2004		County/City
ocate New Facilities Near Mixed-Ose Developments	Develop CECP to Evaluate Energy Conservation	Directionally Sound	Way 2004		County/City
/ork with School Districts and Other Govt Organizations in Site Selection	Programs for Implementation	Directionally Sound	May 2004		County/City
nefits to Reduce Ozone	1 Tograms for implementation	Directionally Sound	Way 2004		County/Oily
rovides Alternatives to Vehicle Trips					
teduces Vehicle Traffic When Similar Uses are Located Together and Within A	dequate Walking Distance				
deduces Vehicle Trips When Additional Uses are Clustered Together Within Clo	ose Proximity				
nmunity Facilities - Fleet Efficiency					
oal - "To Optimize Fleet Vehicles (Equipment, Systems, Maintenance and		is"			
	Develop an Alternative Fuel Fleet Program that				
eplace Older Vehicles with More Energy-Efficient Models	Analyzes and Promotes Fuel Efficiency	Directionally Sound	December 2004		County
rovide Regular Maintenance for Vehicles	Develop a Fuel Efficiency Program	Directionally Sound	December 2004		County
ssign Vehicles Appropriate to the Task	Develop a Fuel Efficiency Program	Directionally Sound	December 2004		County
rain Maintenance Staff in Procedures that Will Save Energy	Develop a Fuel Efficiency Program	Directionally Sound	December 2004		County
rain Personnel in Fuel Efficient Driving Techniques	Develop a Fuel Efficiency Program Develop an Alternative Fuel Fleet Program that	Directionally Sound	December 2004		County
	I DEVELOR AN Alternative Fliel Fleet Program that			I	I
		Directionally Cound	Docombox 2004		Country
corporate the Use of Alternative Fuels Within the Fleet System	Analyzes and Promotes Fuel Efficiency	Directionally Sound	December 2004		County
		Directionally Sound	December 2004		County

Emission Reduction Strategy Under Consideration	Description of Implementation Item	Estimate of Emission Reductions (if available)	Date for Implementation	Resource Concerns/ Constraints	Geographic Area and/or Local Gov't
onomic Development - Revitalization and Infill					
oal - "To Reduce Energy Costs through the Use of Existing Properties in					
	Develop CECP to Evaluate Energy Conservation				
Encourage Economic Development Efforts to Reuse Existing Properties	Programs for Implementation	Directionally Sound	May 2004		County/City
	Develop CECP to Evaluate Energy Conservation				
Develop Database on Vacant, Underutilized Properties	Programs for Implementation	Directionally Sound	May 2004		County/City
	Develop CECP to Evaluate Energy Conservation				
Develop Incentives for the Reuse or Infill of Existing Properties	Programs for Implementation	Directionally Sound	May 2004		County/City
enefits to Reduce Ozone					
Provides Alternatives to Vehicle Trips Reduces Vehicle Traffic When Similar Uses are Located Together and Within A					
Reduces Vehicle Trips When Additional Uses are Clustered Together Within Cl nmunity - Planning Programs	lose Proximity				
pal - "To Identify Programs and Actions that Can Reduce Ozone Produc	tion and Minimize the Associated Hazards"				
Develop Seasonal Ozone Awareness Program (SOAP) including:	Develop SOAP	Directionally Sound			County/City
Promotion of Employee Education and Action		, , , , , , , , , , , , , , , , , , , ,			, ,
Development of Educational Materials/Brochures for Disbursement					
Public Service Announcements					
Notification of Health Warnings					
Notification of Open Burning Bans					
Notification of Small Engine/Lawn Mower Warnings					
Notification of Engine Idling Warning s					
Promotion of Ozone Awareness Through Public Presentations			May 2004	Local Funding	
evelop Ozone Reduction Action Plan (ORAP) including:	Develop ORAP	Directionally Sound			County/City
Appointment of Ozone Action Coordinator	·	•			
dling Restrictions					
Lawn Mower/Small Engine Restrictions					
Postpone Refueling to Evening Hours					
Transition to Alternative Work Schedules and Flexible Lunch Hours			May 2004	Local Funding	
	Develop Energy Element that Outlines the Energy				
	Usage throughout the County and Plans for the			Adaption of the Flowant by County and	
			1	Adoption of the Element by County and	
Develop an Energy Element to the Comprehensive Plan	Future Needs of the County's Energy Demand	Directionally Sound	March 2004	City Councils	County/City

⁻ Assists EPA and SCDHEC in Public Notifications and Education
- Reduces Greenwood County's Impacts on the Environment

Appendix D:

Greenwood County Council Minutes

December 17, 2002

REGULAR MEETING GREENWOOD COUNTY COUNCIL GREENWOOD COUNTY COURTHOUSE ROOM 201 DECEMBER 17, 2002 5:30 P.M.

PRESENT: GONZA L. BRYANT

JOHN D. COMPTON RICHARD W. CROWE EDITH S. CHILDS BOBBIE HANSEN PATRICK MOODY ROBBIE TEMPLETON

James N. Kier, County Manager

Thessa G. Smith, Assistant County Manager

Joan C. Everette, Clerk to Council

Charles M. Watson, Jr, County Attourney

CALL TO ORDER

This meeting of Greenwood County Council is now called to order. This is a regular meeting of County Council. Notice of this meeting has been given by mailing an agenda to The Index Journal, The Index Journal, The Index Journal, The Index Journal, The Index Journal, <a

INVOCATION

Ms Bobbie Hansen, Councilwoman, gave the invocation.

PLEDGE OF ALLEGIANCE

APPROVAL OF THE MINUTES OF THE DECEMBER 3, 2002, REGULAR MEETING.

Mr. Crowe made a motion to approve the minutes.

Mr. Moody seconded the motion.

Council unanimously approved the motion.

THIRD READING AND PUBLIC HEARING

An Ordinance to amend Ordinance No. 08-02 dated May 26, 2002, (Ordinance to control aggressive or menacing dogs to help reduce attacks on people and to provide criminal penalties and civil procedures for the enforcement hereof).

Mr. Bryant opened the Public Hearing and asked anyone desiring to speak to come forward. Mr. Dan Richardson addressed Council in support of the ordinance. After no one else expressed a desire to speak, Mr. Bryant closed the Public Hearing and asked Council for a motion.

Mr. Templeton made a motion to approve the amendment to the Ordinance.

Ms. Childs seconded the motion.

Council unanimously approved the motion.

PUBLIC HEARING

A Public Hearing to receive comments regarding a quit-claim and property line agreement for property located near Tract L-51 and L-52 at Lake Greenwood (Ivester Road off Skillet Road).

Due to an incomplete survey, Mr. Bryant announced that no action would be taken by Council during this meeting.

PUBLIC HEARING

A Public Hearing to receive comments regarding the deeding of Brewer Boarding Home to GLEAMNS.

Mr. Bryant opened the Public Hearing and asked anyone desiring to speak to come forward. After no one expressed a desire to speak he closed the Public Hearing and asked Council for a motion.

Ms. Childs made a motion to deed Brewer Boarding Home to GLEAMNS.

Mr. Compton seconded the motion.

Council unanimously approved the motion.

PUBLIC HEARING

A Public Hearing to receive comments regarding release of a corner of existing right-ofway on Blakedale Circle.

Mr. Larry Smith, County Engineer, said Mr. Bill Thomason had requested a small corner of the existing right-of-way that is not necessary to the maintenance of the cul-de-sac at the end of Blakedale Circle. Mr. Smith said he had investigated the corner and found that it is not needed for maintenance of the road since SCDOT closed the exit at US 25 and the County quit-claimed the old road section to C.Y. Thomason Company and Mr. Charles Walker. This wedge is between the road right-of-way to be retained and the Thomason property. Larry recommended that this portion is quit-claimed and released to the C. Y. Thomason Company and joined with their parcel.

Mr. Bryant opened the Public Hearing and asked anyone desiring to speak to come forward. After no one expressed a desire to speak he closed the Public Hearing and asked Council for a motion.

Mr. Crowe made a motion to approve Mr. Smith's recommendation to grant the request.

Mr. Templeton seconded the motion.

Council unanimously approved the motion.

FIRST READING

An Ordinance to amend the Greenwood County Zoning Ordinance, being Ordinance Number 13-86, dated December 2, 1986, as and if amended so that properties located at 121 Henderson Street is rezoned from R-1 (Single Family Residential) to C-2 (General Commercial).

Mr. Bryant read the title. The Second Reading and Public Hearing will be held January 7, 2003.

FIRST READING

An Ordinance to convert Sewer Sub Districts to Special Tax Districts and/or merge Sewer Sub Districts with Existing Special Tax Districts.

Mr. Bryant read the title. The Second Reading and Public Hearing will be held January 7, 2003.

COMMITTEE REPORTS

Administration and Finance

Consideration of a request for the name of a Circle to be extended

Mr. Bryant reported a request by the Genetic Center Board of Directors for the name "Gregor Mendel Circle" (just off Liner Drive) to be extended to include the new road that circles the additions to the Genetic Center. Mr. Bryant asked Council for a motion.

Ms. Childs made a motion to approve the request for the name "Gregor Mendel Circle" to be extended to include the new road.

Mr. Moody seconded the motion.

Council unanimously approved the motion.

Consideration of a request for grant matching funds for GAMES

Mr. Bryant reported a request from GAMES (Greenwood, Abbeville, McCormick, Edgefield, Saluda) Homeless Coalition. Rebecca Lee Grigg, President requested \$2,300 from each of the five counties for a match to obtain a grant of \$218,668

for transitional housing through HUD. Before the money can be received a letter of commitment from each county is needed. MEG's House was selected by participants in the GAMES Coalition to serve as the project applicant.

Mr. Bryant asked for a motion.

Mr. Compton made a motion to approve \$2,300 for GAMES.

Ms. Childs seconded the motion.

Council unanimously approved the motion.

Consideration of a request for grant matching funds for the Children's Center

Mr. Bryant reported a request for \$5,000 from the Children's Center Executive Director, Sally Baggett, on behalf of the Healthy Families Greenwood County program. The funds were requested to match a grant through the SC Department of Health and Human Services. The \$5,000 will bring \$15,000 into Greenwood County to support the Healthy Families program.

Mr. Bryant asked for a motion.

Mr. Templeton made a motion to approve the \$5,000 requested.

Mr. Compton seconded the motion.

Council unanimously approved the motion.

Consideration of the South Carolina's 8-Hour Ozone Early Action Compact

Mr. Bryant reported the request to consider the South Carolina's 8-Hour Ozone. Mr. Kier briefed Council. The Environmental Protection Agency (EPA) has provided an option for areas currently meeting the 1-hour ozone standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than federally mandated. Mr. Kier said this is a chance to work together with EPA, South Carolina Department of Health and Environmental Control (DHEC) and local governments to provide strategies and implement processes to meet the emissions control. It will provide us an opportunity to meet the clean air standard earlier than December 31, 2007. The state working with EPA and local government will share in the cost and the information being developed through out the state. We have the option to drop out at any time. We would then have to meet the standards by December 2007 ourselves. The Association of Counties recommends that counties participate. Mr. Kier strongly recommended that Council sign the agreement.

Mr. Compton made a motion to sign the agreement.

Mr. Moody seconded the motion

Council unanimously approved the motion.

Planning and Development - No report.

Mr. Moody reminded Council of the invitation from the Planning Department to attend a drop-in and thanked Phil Linder, Planning Director, for the invitation.

Public Works - No report.

Mr. Crowe thanked the Public Works' for lunch and the work they have done this year. He thanked the Engineer Department staff for their assistance to the Public Works Department's accomplishments this year.

Education – No report.

Mr. Templeton informed Council of his opportunity to witness some DARE graduations in the schools. He commended Sgt. Simmons for the job he does with the children of Greenwood County.

Public Safety, Health and Welfare – No report.

Justice

Mr. Compton asked Council to consider a matter that was not on the agenda regarding victims assistance funding. He recommended that Council take up a motion to accept first reading of a proposed ordinance to add an additional \$20,000 in funding out of victims assistance funds for the purpose of allocating money through the victims assistants officer to volunteer agencies in the community. Mr. Kier said the request is to amend the current budget ordinance transferring from Victims Assistance fund \$66,069. It covers the employees in the Victims Assistance office and their fringe benefits. It also provides communications equipment for the department and requested by the Sheriff and \$20,000 that can be utilized by the outside agencies to perform services in conjunction with Sheriff's Department to serve victims of crime. This will be on a contract basis between the Sheriff's Department and the other agencies.

Mr. Compton made a motion to approve for first reading an ordinance to amend the current budget ordinance.

Ms. Childs seconded the motion.

Council unanimously approved the motion.

Recreation, Agriculture, Forestry and Military Affairs - No report.

Appointments

Consideration of a request for four reappointments to the County Planning Commission

Mr. Templeton said the Appointments Committee was not ready to make a recommendation at the time of this meeting. He asked all of the Council members to review the information in their books and to inform the committee of any recommendations they wanted to be considered.

DISTRICT REPORTS

District #1 – Ms. Childs announced that a free Christmas dinner would be held on Christmas Day and asked Council to come help serve the less fortunate.

District #7 - Mr. Crowe thanked those responsible for the Christmas parades in Hodges, Ware Shoals, and Cokesbury College Celebration. Mr. Crowe said he is planning the annual District 7 meeting for the third Tuesday, February 18. He asked for the County Manager and Council Clerk to arrange for each community in district 7 and the major department heads to attend.

MANAGER'S REPORT

Mr. Kier reported that on December 10 the Budget and Control Board met and made budget cuts. The local government fund was cut \$6,739,973 and Greenwood County's portion of that cut was \$92,715.

Also, the County will observe Christmas on December 25 and 26.

Mr. Bryant presented to Ms. Hansen a plaque in appreciation for her service to Greenwood County Council. Mr. Bryant asked for a motion from Council for a resolution to be done in honor of Ms. Hansen.

Mr. Moody made a motion for a resolution to be done to honor Ms. Hansen.

Mr. Compton seconded the motion.

Council unanimously approved the motion.

ADJOURNMENT

There being no further business, Mr. Templeton made a motion to adjourn.

Mr. Compton seconded the motion.

Council unanimously approved the motion.

The meeting adjourned at 6:05 P.M.

Joan C. Everette Clerk to Council

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs. and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

See attached report following Emission Reduction Strategies.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012. (see attached list)

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Early Action Compact Milestone – March 2004 Final List of Emission Reduction Strategies To be Implemented

Laurens County

can be reasonably implemented. It is anticipated these measures under consideration will assist Laurens County in achieving Based on stakeholder consultation and taking into consideration resource and political constraints, the following control measures and/or maintaining the 8-hour ozone standard by 2007.

activities Commuter actions	activi	Restri	Reduce n	Support stat wide efforts	Air Quality Contact	Mea Con
	uter	painting	Reduce motorized activities	Support state- wide efforts	ıality π	Measure under Consideration
Laurens County will promote and encourage vehicle care, repair, and maintenance to maintain	for all	Laurens County will restrict indoor and outdoor painting activities on Ozone Action days where practical	Laurens County will delay or reschedule mowing and motorized construction and maintenance activities on Ozone Action days where practical	Laurens County will support the efforts of SC DHEC regarding state-wide emission reduction strategies.	Scott Holland, Dir. of Public Works, is identified as the Air Quality Contact. At a minimum, this contact will be responsible for ozone education/outreach and dissernination of ozone forecast.	Description of measure
Not available	Not available Not available	Not available	Not available	Not available	Not available	Estimate of emission reductions (if available)
May 2004	July 2003 May 2004	July 2003	July 2003	March 2003	March 2003	Proposed date for implementation
County wide	County wide County wide	County wide	County wide	County wide	County wide	Geographic area and/or local government

Early Action Compact Final Plan March 2004 Laurens County

1. Document progress in developing stakeholder process, including, for example, roles and responsibilities of various stakeholder groups, list of stakeholders, brief summary of stakeholder meetings, stakeholder involvement in development of initial list of control measures, etc.

Check all of the following statements that apply to your county.

		y me jonowing sienems men appry to your county.
1.	X	Attached is a list of the stakeholders. (see attached cover letter)
2.	X	A stakeholder meeting was held on November 26, 2002 (see attached minutes of that meeting.) Laurens County Council and Laurens County Staff members have been involved promoting the EAC through development of the August 2003 and December 2003 updates.
3.	X	A stakeholder meeting is planned for Spring of 2004 to announce Laurens County's Final Plan and Reduction Strategies.
4.	X	DHEC representatives attended a February 4, 2003 meeting held at Upper Savannah which was attended by additional stakeholders' representatives from Laurens County Government.
5.	X	DHEC representatives were consulted regarding the stakeholder process.
6.	X	The stakeholders were consulted regarding the emission reduction strategies under consideration
7.		
8.		

2. Report progress on evaluating and selecting emission reduction measures for the local control strategy.

See March 2004 submittal List of Final Emission Reduction Strategies.

3. Describe public outreach activities (press coverage, public presentations, websites, etc.)

Check all of the following statements that apply to your county.

· · · ·		y the following situements that apply to your county.
1.	X	The media has been invited to attend stakeholder meetings.
2.		A press release regarding the 8-hour ozone standard and/or activities
		related to the Early Action Compact has been issued.
3.	X	Meetings in which the 8-hour ozone standard and/or activities related to
		the Early Action Compact were open to the public (i.e., county council
		meetings) were held on November 26, 2002. (see attached minutes from that meeting.)
4.	X	The press covered the November, 26 2002 meeting and published a
		summary of actions taken.
5.	X	The county EAC website is: Laurens County's main web site is
		www.laurens county.org. We plan to post information regarding our
		EAC in the future.
6.		
7.		

Refer to the June 2003 Progress Report submitted by SCDHEC for statewide activities.

County of Laurens

Department of Public Works

Post Office Box 238 Laurens, South Carolina 29360-0238 Telephone (864) 984-6812 Fax (864) 984-3726

May 23, 2003

Melinda C. Mathias SCDHEC - Bureau of Air Quality 2600 Bull Street Columbia, S C 29201

Re: EAC Progress Report and Strategies

Dear Ms. Mathias:

Laurens County is pleased to submit the attached reports related to our Early Action Compact program. In March of 2003 I was appointed as the County's Air Quality Contact for our EAC. I can be reached by phone at 864-984-6812 or if that line is busy 864-984-5484. You can also reach me at the address above or by e-mail at sholland@co.laurens.sc.us. Laurens County has determined that at a minimum the following are Stakeholders related to air quality and our EAC.

- 1. Laurens County Government and County Council
- 2. City of Laurens Government and Council
- 3. City of Clinton Government and Council
- 4. Town of Gray Court Government and Council
- 5. Town of Fountain Inn Government and Council
- 6. Town of Waterloo Government and Council
- 7. Town of Cross Hill Government and Council
- 8. Commercial and Industrial Businesses
- 9. Public Service Providers
- 10. Public and Private Civic Organizations
- 11. Public School Districts within Laurens County
- 12. Laurens County Chamber of Commerce
- 13. All Citizens of Laurens County
- **14. DHEC**

Laurens County will continue to review strategies to meet and maintain the 8-hour Ozone Standard. This review may result in changes or additions to the strategies that will be adopted in our final plan. Please let us know if you have any comments.

Sincerely.

Scott Holland, Dir.

March 17, 2004

Henry Phillips SCDHEC Bureau of Air Quality 2600 Bull Street Columbia, SC 29201

The attached Early Action Plan for Saluda County is hereby submitted to the South Carolina Department of Health and Environmental Control for submittal to the Environmental Protection Agency, Region 4 office and inclusion in the Early Action State Implementation Plan.

As required by the South Carolina 8-hour Ozone Early Action Compact, Saluda County will continue to submit progress reports every six months documenting progress on implementing emission reduction strategies by April 1, 2005.

If you have any questions, please contact me at 864-445-2635.

Sincerely,

Sandra G. Padget County Director

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

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Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Attachment 1

Early Action Compact Milestone List of Emission Reduction Strategies

SALUDA

According to the latest 8hour ozone monitoring data, Saluda County should remain attainment for the 8hour ozone standard. However, in an effort to assist other areas in South Carolina and in the interest of public health and the environment, in December 2002, Saluda County agreed to participate in the 8-hour ozone early action process. Therefore, based on stakeholder consultation and taking into consideration resource and political constraints, the following emission reduction strategies remain under consideration. Saluda County will continue to evaluate the air quality within the county and may implement one or more of the following measures under consideration.

Measure under consideration	Detailed description of measure	Current assessment of emission reductions	Proposed date for implementation	Geographic area and/or local government
Air Quality Contact	One person will be identified as the Air Quality Contact. At a minimum this contact will be responsible for ozone Education/outreach and dissemination of ozone forecast	Directionally sound	April 2005	County wide
Support statewide efforts	Saluda County will support the efforts of SC DHEC Regarding state-wide emission reduction strategies	Directionally sound	April 2005	County wide

Waccamaw Area

Local Early Action Plans

March 2004



March 9, 2004

Henry Phillips SCDHEC Bureau of Air Quality 2600 Bull Street Columbia, SC 29201

Dear Mr. Phillips:

The attached Early Action Plan for Georgetown County is hereby submitted to the South Carolina Department of Health and Environmental Control for submittal to the Environmental Protection Agency, Region 4 office and inclusion in the Early Action State Implementation Plan.

As required by the South Carolina 8-hour Ozone Early Action Compact, Georgetown County will continue to submit progress reports every six months documenting progress on implementing emission reduction strategies by April 1, 2005.

If you have any questions, please contact Ray C. Funnye of my staff at (843) 545-3316 or email at rfunnye@georgetowncountysc.org.

Sincerely,

Thomas W. Edwards, Jr. County Administrator, Georgetown County

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season." If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Stakeholder meetings were held on the following dates: May 6, August 7, and November 3 of 2003. Refer to the attached agendas, invitation lists, and sign-in sheets for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Attachment 1 Georgetown County Early Action Compact List of Emission Reduction Strategies

According to the latest 8-hour ozone monitoring data, Georgetown County should remain attainment for the 8-hour ozone standard. However, in an effort to assist other areas in South Carolina and in the interest of public health and the environment, in December 2002, Georgetown County agreed to participate in the 8-hour ozone early action process. Therefore, based on stakeholder consultation and taking into consideration resource and political constraints, the following emission reduction strategies were identified.

			Proposed	
Measure under	Detailed description of measure	Current assessment of	date for	Geographic area and/or
consideration		emission reductions	implementation	local government
New Employee	Encourage employees to be ozone friendly during the new	Not available	In Progress	Department wide
Orientation	employee orientation.			
Assign Ozone Action	Holley Causey & Amy McCutcheon have been assign as the	Not available	March 2003	Georgetown County
Coordinators	ozone action coordinators.			
Distribute informational flyers	Flyers concerning ozone issues and helpful individual actions will be given to county employees and citizens.	Not available	April 2004	Georgetown County
Ozone awareness articles in Department Newsletters	The action coordinators will promote ozone awareness by developing articles for the County newsletter.	Not available	1 st Quarter Newsletter 2004	Department wide
E-mail county employees with Ozone Action Days	E-mails will be sent to each county employee on the county website notifying ozone action alert days.	Not available	April 2004	Georgetown County
Include information on ozone awareness on county website	Information will be added to the county website to educate the public about ozone awareness.	Not available	April 2005	County wide

Refuel vehicles at night when possible	Mosquito Control will have night shift refuel spray units at night.	Not available	In Progress	Department Wide
Encourage employees not to top off tank when refueling	Employees will be reminded in staff meetings not to top off tank when refueling.	Not available	April 2004	Department Wide
Institute energy conservation measures in county offices	Signs will be posted and reminders sent to employees to follow energy conservation measures	Not available	April 2004	Department Wide
Develop bike trail system in county	A bike trail system is being constructed in parts of the county.	Not available	In Progress	County Wide
Implement smoking vehicle program	Have First Vehicle Services implement a smoking vehicle program and conduct checks on leaking gas caps	Not available	April 2004	Department Wide
Implement reduction of idle or no idle policy	Have Director implement no idle standard operating procedure	Not available	April 2004	Department Wide
Develop energy element in comprehensive plan	An energy element should be implemented in the county comprehensive plan	Not available	April 2005	County Wide
Encourage employees to use alternatives for transportation	Encourage employees to carpool or bike to work	Not available	April 2004	County Wide
Encourage employees to bring lunch to work or order in	Have menus of restaurants that provide delivery service in all county break rooms	Not available	In Progress	County Wide
Educate citizens about air quality issues	Educate citizens through informational flyers at recycling center information booths	Not available	April 2004	County Wide
Include air quality lessons in EEC Curriculum	Teach lessons from the Action for a cleaner tomorrow book at the EEC	Not available	In Progress	Department Wide
Place standard catalytic reductions on two units	Two units will be equipped with SCR to reduce emissions	90% reduction in emissions	In Progress	Santee Cooper
Electric cars will be purchased for on site mobilization	Electric cars will be used for transportation at the office	Not available	In Progress	Santee Cooper

Purchase alternative fuel vehicles as company cars	Increase fleet of company cars that use E80 fuel for transportation	Not available	In Progress	Santee Cooper
Providing flexible hours of operation for employees	Company will have a flexible working schedule for employees	Not available	In Progress	Santee Cooper
Employees will be allowed to work at home	Company will allow employees to work at home over the internet	Not available	April 2004	Santee Cooper
Implement Residential Development Ordinance	Establish an ordinance that requires new developments over 10 lots to install a bike trail or sidewalks.	Not available	January 2005	County Wide
Adopt a resolution thanking local industries for their efforts in reducing air pollution	Thank International Paper and Georgetown Steel for their past efforts in reducing air pollution and strongly encouraging them to do more	Not available	In Progress	City of Georgetown

Document progress in developing stakeholder process:

Check all of the following statements that apply to your county.

1.	Χ	Attached is a list of the stakeholders.
2.	X	A stakeholder meeting(s) was held on <u>05/06/03</u> , <u>08/07/03</u> , <u>11/03/03</u> . (May attach copy
		of minutes, if available.)
3.	X	A stakeholder meeting is planned for the near future
4.	X	DHEC representatives attended the stakeholder meeting.
5.	X	DHEC representatives were consulted regarding the stakeholder process.
6.	X	The stakeholders were consulted regarding the emission reduction strategies under
		consideration

Describe public outreach activities (press coverage, public presentations, websites, etc.)

Check all of the following statements that apply to your county.

1.	X	The media has been invited to attend stakeholder meetings.
2.	X	A press release regarding the 8-hour ozone standard and/or activities related to the Early
		Action Compact has been issued.
3.	X	Meetings in which the 8-hour ozone standard and/or activities related to the Early Action Compact were open to the public (i.e., county council meetings) were held on 05/06/03, 08/07/03, and 11/03/03. (May attach copy of agenda and/or minutes if available.)
4.		There has been no press coverage for our activities.



Horry County Government Danny Knight, Administrator

PO Box 1236 Conway, SC 29528 (843) 915-5020 (843) 915-6020 FAX

March 11, 2004

Henry Phillips SCDHEC Bureau of Air Quality 2600 Bull Street Columbia, SC 29201

Dear Mr. Phillips:

The attached Early Action Plan for Horry County is hereby submitted to the South Carolina Department of Health and Environmental Control for submittal to the Environmental Protection Agency, Region 4 office and inclusion in the Early Action State Implementation Plan.

As required by the South Carolina 8-hour Ozone Early Action Compact, Horry County will continue to submit progress reports every six months documenting progress on implementing emission reduction strategies by April 1, 2005.

If you have any questions, please contact Paul Whitten at (843) 248-1393, or whittenp@horrycounty.org.

Sincerely,

Danny Knight Administrator



Horry County Early Action Plan for the 8-Hour Ozone Standard

1. Background

- a. In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the "Ozone Season."
- b. If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as nonattainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.
- c. The above approach is commonly referred to as the "traditional" approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally

mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing "fail-safe" provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

- d. Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.
- e. Although our county is not a potential area to be designated non-attainment for the 8-hour ozone standard, other areas in South Carolina may be designated non-attainment. As air knows no boundaries, implementation of emission reduction strategies and support of federal and state rules and regulations will help to provide cleaner air sooner to citizens of South Carolina.

2. What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

3. Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

4. Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power

plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and drycleaners (emit VOCs). Mobile sources are divided into two categories, on-road and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

5. Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

6. Emission Reduction Strategies

- 1. Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.
- 2. A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.
- 3. The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.
- 4. Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

7. Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring

necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Prepared by:

Paul Whitten

Public Safety Director

faul White

Attachment 1 - Horry County - List of Emission Reduction Strategies

Emission Reduction Strategy	Description and analysis of how strategy will be implemented	Estimate of emission reductions (if available)	Date for implementation	Resource Concerns/ Constraints	Geographic area and/or local government
Air Quality Contact	Paul Whitten has been identified as the Air Quality Contact. At a minimum, he will be responsible for ozone education/outreach and dissemination of ozone forecast.	Directionally sound	March 2003		County wide
Support state- wide efforts	Horry County will support the efforts of SC DHEC regarding state-wide emission reduction strategies.	Directionally sound	March 2003		County wide
Public Awareness	Horry County will develop outreach efforts to educate and motivate individuals to take actions to minimize ozone pollution.	Directionally sound	August 2003		County wide
Hybrid Vehicle	Horry County will purchase and use Hybrid vehicles, where appropriate.	Directionally sound	October 2004	Budget	County wide
Alternative Fuel Vehicles	Horry County will purchase and use fuel-efficient and low emissions vehicles, where appropriate.	Directionally sound	January 2003	Fuel availability is a problem.	County wide
Conservation	Horry County will develop an Energy Conservation Plan for county government operations.	Directionally sound	March 2004		County wide
Land Use	Horry County will review our current land use regulations to ensure landscaping standards are considered and appropriate.	Directionally sound	June 2004		County wide
Mobile Sources	Horry County will reduce vehicle emissions in the ambulance fleet by providing electrical power to power air conditioning and heating, while ambulances are in the station. Thus eliminating the need to idle the vehicles.	Directionally sound	May 2003	As ambulances are replaced, this capability will be incorporated into new vehicles.	County wide
Mobile Sources	Horry County will encourage carpooling as an option where employees agree to ride together. Horry County will consider incentives to those who participate.	Directionally sound	January 2004		County wide
Staggered Hours / Flex Time	Horry County will allow staggered and flex hours in scheduling work and work hours, in some departments, as appropriate.	Directionally sound	July 2003		County wide
Teleconferencing	Horry County will encourage the use of teleconferencing, and provide appropriate equipment and technologies.	Directionally sound	May 2002		County wide

Mass Transit	Horry County will promote and support mass transit	Directionally	July 2003		County wide
	as a transportation option.	sound			
Green Power	Horry County will support Green Power initiatives, as appropriate.	Directionally sound	July 2003	Currently the Horry County Solid Waste Authority runs a Green Power program.	County wide.
Awareness	Horry County will consider parking facility controls that encourage carpooling, and limits the impact on vehicle operation and parking.	Directionally sound	January 2004		County wide
Mobile Sources	Horry County will encourage and support traffic operational planning, engineering and maintenance for existing and future transportation infrastructure.	Directionally sound	May 2003		County wide

Background

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Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, onroad and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Refer to the progress reports submitted every six months for information regarding the stakeholder process and a complete listing of the stakeholder meetings and public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NOx SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NOx reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Attachment 1 Williamsburg County List of Emission Reduction Strategies

According to the latest 8-hour ozone monitoring data, Williamsburg County should remain attainment for the 8-hour ozone standard. However, in an effort to assist other areas in South Carolina and in the interest of public health and the environment, in December 2002, Williamsburg County agreed to participate in the 8-hour ozone early action process. Therefore, based on stakeholder consultation and taking into consideration resource and political constraints, the following emission reduction strategies remain under consideration. Williamsburg County will continue to evaluate the air quality within the county and may implement one or more of the following measures under consideration.

			Proposed	Geographic area and/or
Measure under	Description of measure	Estimate of emission	date for	local government
Consideration	(A more detailed description will be included in the Early Action Plan.)	reductions (if available)	implementation	
Air Quality	One person will be identified as the Air Quality	Directionally sound		County Wide
Contact	Contact. At a minimum, this contact will be			
	responsible for ozone education/outreach and			
	dissemination of ozone forecast.			
Support state-	Williamsburg County will support the efforts of SC	Directionally sound		County Wide
wide efforts	DHEC regarding statewide emission reduction			
	strategies.			
Local Business	Air Quality improvement ideas will be sent to all	Directionally sound		County Wide
incentive	companies. Will encourage each company to identify a			
	contact person.			
Air Quality	Continue to work with Stakeholders to implement air quality	Directionally sound		County Wide
Strategies	strategies			